Cellular Biomedicine Group, Inc.
Form 10-K
February 19, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

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FORM 10-K

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ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number: 001-36498

_____

CELLULAR BIOMEDICINE GROUP, INC.
(Exact name of registrant as specified in its charter)

_____

Delaware	86-1032927
State of Incorporation	IRS Employer Identification No.

1345 Avenue of Americas, 15th Floor
New York, New York 10105
(Address of principal executive offices)

(347) 905 5663
(Registrant's telephone number)

Securities registered pursuant to Section 12(b) of the Exchange Act:
Common Stock, par value $.001 per share

Securities registered pursuant to Section 12(g) of the Exchange Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer		Accelerated filer
Non-accelerated filer	(Do not check if a smaller reporting company)	Smaller reporting company
		Emerging growth company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter – $232,614,111 as of June 30, 2018.

Indicate the number of shares outstanding of each of the registrant’s classes of common stock, as of the latest practicable date: As of February 4, 2019, there were 19,136,867 shares and 18,081,368 shares of common stock, par value $.001 per share issued and outstanding, respectively.

Documents Incorporated By Reference –Portions of the Registrant’s definitive Proxy Statement for its 2019 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

THE INFORMATION REQUIRED BY PART III OF THIS ANNUAL REPORT ON FORM 10-K, TO THE EXTENT NOT SET FORTH HEREIN, IS INCORPORATED BY REFERENCE FROM THE REGISTRANT'S DEFINITIVE PROXY STATEMENT RELATING TO THE ANNUAL MEETING OF STOCKHOLDERS, WHICH DEFINITIVE PROXY STATEMENT SHALL BE FILED WITH THE SECURITIES AND EXCHANGE COMMISSION WITHIN 120 DAYS AFTER THE END OF THE FISCAL YEAR TO WHICH THIS ANNUAL REPORT ON FORM 10-K RELATES.

CELLULAR BIOMEDICINE GROUP, INC.
ANNUAL REPORT ON FORM 10-K
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2018

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Cautionary Note Regarding Forward-looking Statements and Risk Factors

This Annual Report on Form 10-K, or this Annual Report, may contain “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act and the Private Securities Litigation Reform Act of 1995, which are subject to the “safe harbor” created by those sections. Our actual results could differ materially from those anticipated in these forward-looking statements. This annual report on Form 10-K of the Company may contain forward-looking statements which reflect the Company's current views with respect to future events and financial performance. The words "believe," "expect," "anticipate," "intends," "estimate," "forecast," "project," and similar expressions identify forward-looking statements. All statements other than statements of historical fact are statements that could be deemed to be forward-looking statements, including plans, strategies and objectives of management for future operations; proposed new products, services, developments or industry rankings; future economic conditions or performance; belief; and assumptions underlying any of the foregoing. Although we believe that we have a reasonable basis for each forward-looking statement contained in this report, we caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. Such "forward-looking statements" are subject to risks and uncertainties set forth from time to time in the Company's SEC reports and include, among others, the Risk Factors set forth under Item 1A below.

The risks included herein are not exhaustive. This annual report on Form 10-K filed with the SEC include additional factors which could impact the Company's business and financial performance. Moreover, the Company operates in a rapidly changing and competitive environment. New risk factors emerge from time to time and it is not possible for management to predict all such risk factors. Further, it is not possible to assess the impact of all risk factors on the Company's business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Forward-looking statements in this report include, but are not limited to, statements about:

the success, cost and timing of our product development activities and clinical trials;

our ability and the potential to successfully advance our technology platform to improve the safety and effectiveness of our existing product candidates;

the potential for our identified research priorities to advance our cancer and degenerative disease technologies;

our ability to obtain drug designation or breakthrough status for our product candidates and any other product candidates, or to obtain and maintain regulatory approval of our product candidates, and any related restrictions, limitations and/or warnings in the label of an approved product candidate;

the ability to generate or license additional intellectual property relating to our product candidates;

regulatory developments in China, United States and other foreign countries;

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the potential of the technologies we are developing (each as defined below);

fluctuations in the exchange rate between the U.S. dollars and the Chinese Yuan;

the changes associated with our move to the new Zhangjiang building in Shanghai;

our plans to continue to develop our manufacturing facilities.

Readers are cautioned not to place undue reliance on such forward-looking statements as they speak only of the Company's views as of the date the statement was made. The Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

PART I

ITEM 1. BUSINESS.

As used in this annual report, "we", "us", "our", "CBMG", "Company" or "our company" refers to Cellular Biomedicine Group, Inc. and, unless the context otherwise requires, all of its subsidiaries or deemed controlled companies.

Overview

Cellular Biomedicine Group, Inc. is a clinical stage biopharmaceutical company, committed to developing therapies for cancer and degenerative diseases utilizing proprietary cell-based technologies. Our focus is to reduce the aggregate cost and ensure quality products of cell therapies by leveraging our innovative manufacturing capabilities and strong ability to process optimization to development of our internal proprietary cell therapy based pipelines and our ability to partner with leading cell therapy companies seeking manufacturing capabilities for global collaborative partnerships. CBMG is headquartered in New York, New York, its Research & Development facilities are based in Gaithersburg, Maryland and Shanghai, China, and its manufacturing facilities are based in China in the cities of Shanghai and Wuxi.

The manufacturing and delivery of cell therapies involve complex, integrated processes, comprised of harvesting T cells from patients, T cell isolation, activation, viral vector transduction and GMP grade purification. We are using a semi-automated, fully closed system and self-made high quality viral vector for cell therapy manufacturing, which enables us to reduce the aggregate cost of cell therapies. Additionally, this system has the ability to scale for commercial supply at an economical cost.

Our technology includes two major platforms: (i) Immune cell therapy for treatment of a broad range of cancer indications comprised of technologies in Chimeric Antigen Receptor modified T cells ("CAR-T"), genetic modified T-cell receptors (“TCRs”), next generation neoantigen-reactive tumor infiltrating lymphocyte (“TIL”), and (ii) human adipose-derived mesenchymal progenitor cells ("haMPC") for treatment of joint diseases. We expect to carry out clinical studies leading to the eventual approval by the National Medical Products Administration (NMPA, renamed from China Food and Drug Administration (“CFDA”)) of our products through Biologics License Application ("BLA") filings and authorized clinical centers throughout Greater China. We also plan to conduct clinical studies in the United States that could potentially lead to FDA approval of our solid tumor clinical assets.

Our primary target market is China, where we believe that our cell-based therapies will be able to help patients with high unmet medical needs. We are focused on developing and marketing safe and effective cell-based therapies to treat cancer and joint diseases. We have developed proprietary technologies and know-how in our cell therapy platforms. We are conducting clinical studies in China with our stem cell based therapies to treat knee osteoarthritis (“KOA”). On December 2017, the Chinese government issued trial guidelines concerning the development and testing of cell therapy products in China, which provides that all cell therapy products are treated as “drug” from a regulatory perspective, and require official approval for INDs. Prior to this revised regulation in December 2017, we have completed a Phase IIb autologous haMPC KOA clinical study and released the promising results. Led by Shanghai Renji Hospital, one of the largest teaching hospitals in China, we completed a Phase I clinical trial of our off-the-shelf allogeneic haMPC (AlloJoin™) therapy for treating KOA patients. We also completed and presented the Allojoin™ Phase I 48-week data in China, and have been approved by NMPA to initiate a Phase II clinical trial following the filing of CBMG's IND application for AlloJoin® for KOA. CBMG’s IND application is the first stem cell drug application to be approved by NMPA for a Phase II KOA clinical trial since the release of the updated regulation on cell therapy.

In addition to our own internal pipelinse, we have initiated successful partnerships with other cell therapy focused companies as it pertains to their technology and platform's market access into the Chinese market. We believe that our focus on process improvement and creating cost savings on cell therapy manufacturing will enable us to collaborate with those firms as they enter into the Chinese market.

Prior to September 2018, CBMG has been developing its own anti-CD19 CAR-T cell therapy in B-cell non-Hodgkin lymphoma ("NHL")and adult acute lymphoblastic leukemia ("ALL") and had already initiated IND applications in China. On September 25, 2018, we entered into a strategic licensing and collaboration agreement with Novartis to manufacture and supply their CAR-T cell therapy Kymriah® (tisagenlecleucel) in China. As part of the deal, Novartis took approximately a 9% equity stake in CBMG, and CBMG is discontinuing development of its own anti-CD19 CAR-T cell therapy. This collaboration with Novartis reflects our shared commitment to bringing the first marketed CAR-T cell therapy product, Kymriah® , currently approved in the US, EU and Canada for two difficult-to-treat cancers, to China where the number of patients remains the highest in the world. We continue to develop cell therapies targeting other than CD19 on our own and Novartis has the first right of negotiation on these developments. The CBMG oncology pipeline includes CAR-T targeting CD20-, CD22- and B-cell maturation antigen (BCMA), NKG2D, AFP TCR and TIL. We are striving to build competitive research capabilities, a cutting edge translational medicine unit, along with a well-established cellular manufacturing capability and ample capacity, to support Kymriah® in China and our development of cell therapy products. We expect to initiate first in-human clinical trials for multiple CAR-T and TCR-T programs in 2019.

Corporate History

Headquartered in New York, the Company is a Delaware biopharmaceutical company focused on developing treatment for cancer and joint diseases for patients in China. The Company was formerly known as EastBridge Investment Group Corporation and originally incorporated in the State of Arizona on June 25, 2011. The Company started its regenerative medicine business in China in 2009 and expanded to CAR-T therapies in 2014.

Recent Developments

On February 5, 2018, Sailings Capital invested in the Company for an aggregate of 1,719,324 shares (the "February 2018 Private Placement") of the Company's common stock at $17.80 per share, for total gross proceeds of approximately $30.6 million. Pursuant to the shares purchase agreement, Sailings Capital nominated, and Bosun S. Hau was appointed as a non-executive Class III director of the Company and his appointment was subsequent ratified by the Company's stockholders during the Annual Stockholders Meeting on April 27, 2018.

On February 15, 2018, we obtained a 36–month exclusive option with Augusta University to negotiate a royalty-bearing, exclusive license to the patent rights owned by the Augusta University relating to an invention to identify novel alpha fetoprotein ("AFP") specific TCR for a hepatocellular carcinoma ("HCC") immunotherapy. On February 14, 2019 we exercised our option and executed the exclusive license with Augusta University.

On March 16, 2018, we issued a press release announcing the presentation of the Allojoin™ Phase I 48-week data in China, as well as the termination of the Company's U.S. Allojoin™ program with CIRM to focus the clinical development in China. Prior to termination, the Company had received $1.2 million of the potential $2.29 million available under the CIRM grant.

On April 18, 2018 and April 21, 2018, the NMPA CDE posted on its website acceptance of the IND application for CAR-T cancer therapies in treating patients with NHL and ALL submitted by two of the wholly-owned subsidiaries of the Company, respectively. After executing the Novartis License and Collaboration Agreement in September 2018 described below, we no longer pursue our own CD-19 CAR-T program.

On June 22, 2018, we expanded and moved to a new research and development center in Gaithersburg, Maryland.

On September 25, 2018, the Company, together with certain of its subsidiaries and controlled entities, entered into a License and Collaboration Agreement (the "Collaboration Agreement") with Novartis, pursuant to which the Company will manufacture and supply Novartis the T CAR-T cell therapy Kymriah® (tisagenlecleucel) (the "Product") in China. The Company also granted Novartis a world-wide license certain of its intellectual property and technology, including intellectual property and technology related to the Product. Such license is exclusive with respect to the development, manufacture and commercialization of the Product and non-exclusive with respect to the development, manufacture and commercialization of other products.

Also, on September 25, 2018, we entered into a Share Purchase Agreement with Novartis pursuant to which the Company agreed to sell, and Novartis agreed to purchase from the Company, an aggregate of 1,458,257 shares of the Company's common stock, at a purchase price of $27.43 per share, which was the equivalent of 130% of the volume-weighted average price of the Common Stock for the prior 20 consecutive trading days, for total gross proceeds of approximately $40 million (the "Private Placement"). In connection with the Private Placement, the Company filed a Form S-3 with the SEC on October 10, 2018 to satisfy the registration requirement. The SEC declared the registration effective on October 22 and the Company filed the Private Placement Prospectus on October 23, 2018.

On October 2, 2018, we entered into a non-exclusive license agreement with The U.S. Department of Health and Human Services, as represented by National Cancer Institute, an Institute or Center (the "IC") of the National Institutes of Health, pursuant to which the Company was granted rights to the worldwide development, manufacture and commercialization of autologous, tumor-reactive lymphocyte adoptive cell therapy products, isolated from tumor infiltrating lymphocytes as claimed in the IC licensed patent rights, for the treatment of non-small cell lung, stomach, esophagus, colorectal, and head and neck cancer(s) in humans.

On October 10, 2018, we announced that we commenced a stock repurchase program (the "2018 Share Repurchase Program") granting the Company authority to purchase up to $8.48 million in common shares through open market purchases pursuant to a plan adopted in accordance with Rule 10b5-1 and Rule 10b-18 of the Exchange Act. The program contemplated repurchases of shares of the Company's common stock in the open market in accordance with all applicable securities laws and regulations. It is contemplated that total shares to be repurchased under the 2017 and 2018 Share Repurchase Programs shall not exceed $15 million in the aggregate. From June 2017 to December 2018 the Company repurchased a total of 1,001,499 shares of our common stock at a total price of $13,953,666, or an average of $13.93 per share.

On October 29, 2018, after reassessing CBMG broad pipelines in immune cell technologies which comprises of CAR-T, TCRT, and TIL, CBMG notified USF and Moffitt to prioritize our clinical efforts primary on cell therapy efforts and to terminate its GVAX license agreements.

On November 2, 2018, we relocated our principal executive offices from Cupertino, California to New York, New York.

On November 7, 2018, NMPA CDE formally accepted the IND application for allogeneic adipose-derived mesenchymal progenitor cell (haMPC) off-the-shelf therapy AlloJoin® for Knee Osteoarthritis (KOA) submitted by two of our wholly-owned subsidiaries.

In the next 12 months, we aim to accomplish the following, though there can be no assurances that we will be able to accomplish any of these goals:

Execute the technical transfer and align the manufacturing processes with Novartis to support Novartis' development of the Kymriah® therapy in China;

Advance Allojoin™ KOA Phase II clinical trial to support the BLA submissions in China;

Advance Rejoin™ KOA IND applications with the NMPA's CDE and initiate clinical studies to support the BLA submissions in China;

Initiate investigator sponsored and/or CBMG sponsored clinical trials and get early proof of concept results for the following clinical assets:

- Anti-BCMA CAR-T for Multiple Myeloma (MM)
- Anti-CD22 CAR-T for anti-CD19 CAR-T relapsing ALL
- NKG2D CAR-T for acute myeloid leukemia (AML)
- Alpha Fetoprotein Specific TCR-T for HCC
- anti-CD 20 CAR-T for anti-CD19 CAR-T relapsing NHL
- TIL for solid tumors

Bolster R&D resources to fortify our intellectual properties portfolio and scientific development. Continue to develop a competitive cell therapy pipeline for CBMG. Seek opportunities to file new patent applications in potentially the rest of the world and in China;

Leveraging our quality system and our strong scientific expertise to develop a platform as preferred parties for international pharmaceutical companies to co-develop cell therapies in Chinaby implementing our quality strategies

and leveraging the experience and expertise of our strong scientific team in the U.S. and in China;

Evaluate and implement digital platform system for research, material management, production and clinical data tracking;

Evaluate new regenerative medicine technology platform for other indications and review recent development in the competitive landscape;

Advance our Quality Management System (QMS), Validation Master Plan (VMP) and electronic records for quality assurance ;

Improve liquidity and fortify our balance sheet by courting institutional investors; and

Evaluate the addition of gene therapy for disease treatment to our portfolio; and

Evaluate possibility of dual listing on the Hong Kong Stock Exchange to expand investor base in Asia.

Our operating expenses for year ended December 31, 2018 were in line with management's plans and expectations. We have an increase in total operating expenses of approximately $12.8 million for the year ended December 31, 2018, as compared to the year ended December 31, 2017, which is primarily attributable to increased R&D expenses and clinical developments in 2018.

Corporate Structure

Our current corporate structure is illustrated in the following diagram:
Currently we have the following subsidiaries (including a controlled VIE entity):

Eastbridge Investment Corporation ("Eastbridge Sub"), a Delaware corporation, is a wholly owned subsidiary of the Company.

Cellular Biomedicine Group VAX, Inc. ("CBMG VAX"), a California corporation, is a wholly owned subsidiary of the Company.

Cellular Biomedicine Group HK Limited, a Hong Kong company limited by shares, is a holding company and wholly owned subsidiary of the Company.

Cellular Biomedicine Group Ltd. (Wuxi), license number 320200400034410 (the "WFOE") is a wholly foreign-owned entity that is 100% owned by Cellular Biomedicine Group HK Limited. This entity's legal name in Chinese translates to "Xi Biman Biological Technology (Wuxi) Co. Ltd." WFOE controls and holds ownership rights in the business, assets and operations of Cellular Biomedicine Group Ltd. (Shanghai) ("CBMG Shanghai") through variable interest entity (VIE) agreements. We conduct certain biopharmaceutical business activities through WFOE, including research and development, technical support, technical service, technology transfer in biomedical technology field, manufaturing of non-food, pharmaceutical polypeptides and medical devices (in vitro diagnostic reagents) extracted by biology making foreign investment with its own funds; cosmetics, sanitary products and biological agents wholesale, commission agents

Cellular Biomedicine Group Ltd. (Shanghai) license number 310104000501869 ("CBMG Shanghai"), is a PRC domestic corporation, which we control and hold ownership rights in, through WFOE and the above-mentioned VIE agreements. This entity's legal name in Chinese translates to "Xi Biman Biotech (Shanghai) Co., Ltd." We conduct certain biopharmaceutical business activities through our controlled VIE entity, CBMG Shanghai, including clinical trials and certain other activities requiring a domestic license in the PRC. Mr. Chen Mingzhe and Mr. Lu Junfeng together are the record holders of all of the outstanding registered capital of CBMG Shanghai. Mr. Chen and Mr. Lu are also investors of CBMG Shanghai constituting the entire management of the same. Mr. Chen and Mr. Lu receive no compensation for their roles as investors of CBMG Shanghai.

Beijing Agreen Biotechnology Co., Ltd. is a PRC domestic corporation and wholly owned subsidiary of CBMG Shanghai.

Wuxi Cellular Biopharmaceutical Group Ltd., established on January 17, 2017, is a PRC domestic corporation and wholly owned subsidiary of CBMG Shanghai.

Shanghai Cellular Biopharmaceutical Group Ltd., established on January 18, 2017, is a PRC domestic corporation and wholly owned subsidiary of CBMG Shanghai.

Variable Interest Entity (VIE) Agreements

Through our wholly foreign-owned entity and 100% subsidiary, Cellular Biomedicine Group Ltd. (Wuxi), we control and have ownership rights by means of a series of VIE agreements with CBMG Shanghai. The shareholders of record for CBMG Shanghai were Cao Wei and Chen Mingzhe, who together owned 100% of the equity interests in CBMG Shanghai before October 26, 2016. On October 26, 2016, Cao Wei, Chen Mingzhe and Lu Junfeng entered into an equity transfer agreement and a supplementary agreement ("Equity Transfer Agreement"), pursuant to which Cao Wei transferred his equity interests in CBMG Shanghai to Chen Mingzhe and Lu Junfeng. As a result of the transfer, each of Mr. Chen and Mr. Lu now owns a 50% equity interest in CBMG Shanghai. On the same day, WFOE, CBMG Shanghai, Cao Wei and Chen Mingzhe entered into a termination agreement, pursuant to which, the series of VIE agreements executed among the WFOE, CBMG Shanghai, Chen Mingzhe and Cao Wei were terminated and a new set of VIE agreements were executed. The following is a description of each of these VIE agreements:

Exclusive Business Cooperation Agreement. Through the WFOE, we are a party to an exclusive business cooperation agreement dated October 26, 2016 with CBMG Shanghai, which provides that (i) the WFOE shall exclusively provide CBMG Shanghai with complete technical support, business support and related consulting services; (ii) without prior written consent of the WFOE, CBMG Shanghai may not accept the same or similar consultancy and/or services from any third party, nor establish any similar cooperation relationship with any third party regarding same matters during the term of the agreement; (iii) CBMG Shanghai shall pay the WFOE service fees as calculated based on the time of service rendered by the WFOE multiplying the corresponding rate, plus an adjusted amount decided by the board of the WFOE; and (iv) CBMG Shanghai grants to the WFOE an irrevocable

and exclusive option to purchase, at its sole discretion, any or all of CBMG Shanghai's assets at the lowest purchase price permissible under PRC laws. The term of the agreement is 10 years, provided however the agreement may extended at the option of the WFOE. Since this agreement permits the WFOE to determine the service fee at its sole discretion, the agreement in effect provides the WFOE with rights to all earnings of the VIE.

Loan Agreement. Through the WFOE, we are a party to a loan agreement with CBMG Shanghai, Lu Junfeng and Chen Mingzhe dated October 26, 2016, in accordance with which the WFOE agreed to provide an interest-free loan to CBMG Shanghai. The term of the loan is 10 years, which may be extended upon written consent of the parties. The method of repayment of CBMG Shanghai shall be at the sole discretion of the WFOE, including but not limited to an acquisition of CBMG Shanghai in satisfaction of its loan obligations.

Exclusive Option Agreement with Lu Junfeng. Through the WFOE, we are a party to an option agreement with CBMG Shanghai and Lu Junfeng dated October 26, 2016, in accordance with which: (i) Lu Junfeng irrevocably granted the WFOE an irrevocable and exclusive right to purchase, or designate another person to purchase the entire equity interest in CBMG Shanghai as then held by him, at an aggregate purchase price to be determined; and (ii) any proceeds obtained by Lu Junfeng through the above equity transfer in CBMG Shanghai shall be used for the payment of the loan provided by the WFOE under the aforementioned Loan Agreement.

Exclusive Option Agreement with Chen Mingzhe. Through the WFOE, we are a party to an exclusive option agreement with CBMG Shanghai and Chen Mingzhe dated October 26, 2016, under which: (i) Chen Mingzhe irrevocably granted the WFOE an irrevocable and exclusive right to purchase, or designate another person to purchase the entire equity interest in CBMG Shanghai for an aggregate purchase price to be determined; and (ii) any proceeds obtained by Chen Mingzhe through the above equity transfer in CBMG Shanghai shall be used for the payment of the loan provided by the WFOE under the aforementioned Loan Agreement.

Power of Attorney from Lu Junfeng. Through the WFOE we are the recipient of a power of attorney executed by Lu Junfeng on October 26, 2016, in accordance with which Lu Junfeng authorized the WFOE to act on his behalf as his exclusive agent with respect to all matters concerning his equity interest in CBMG Shanghai, including without limitation to attending the shareholder meetings of CBMG Shanghai, exercising voting rights and designating and appointing senior executives of CBMG Shanghai.

Power of Attorney from Chen Mingzhe. Through the WFOE we are the recipient of a power of attorney executed by Chen Mingzhe on October 26, 2016, in accordance with which Chen Mingzhe authorized the WFOE to act on his behalf as his exclusive agent with respect to all matters concerning his equity interest in CBMG Shanghai, including without limitation to attending the shareholders meetings of CBMG Shanghai, exercising voting rights and designating and appointing senior executives of CBMG Shanghai.

Equity Interest Pledge Agreement with Lu Junfeng. Through the WFOE, we are a party to an equity interest pledge agreement with CBMG Shanghai and Lu Junfeng dated October 26, 2016, in accordance with which: (i) Lu Junfeng pledged to the WFOE the entire equity interest he holds in CBMG Shanghai as security for payment of the consulting and service fees by CBMG Shanghai under the Exclusive Business Cooperation Agreement; (ii) Lu Junfeng and CBMG Shanghai submitted all necessary documents to ensure the registration of the Pledge of the Equity Interest with the State Administration for Industry and Commerce ("SAIC"), and the pledge became effective on November 22, 2016; (iii) on the occurrence of any event of default, unless it has been successfully resolved within 20 days after the delivery of a rectification notice by the WFOE, the WFOE may exercise its pledge rights at any time by a written notice to Lu Junfeng.

Equity Interest Pledge Agreement with Chen Mingzhe. Through the WFOE we are a party to an equity interest pledge agreement with CBMG Shanghai and Chen Mingzhe dated October 26, 2016, in accordance with which: (i) Chen Mingzhe pledged to the WFOE the entire equity interest he holds in CBMG Shanghai as security for payment of the consulting and service fees by CBMG Shanghai under the Exclusive Business Cooperation Agreement; (ii) Chen Mingzhe and CBMG Shanghai submitted all necessary documents to ensure the registration of the Pledge of the Equity Interest with SAIC, and the pledge became effective on November 22, 2016; (iii) on the occurrence of any event of default, unless it has been successfully resolved within 20 days after the delivery of a rectification notice by the WFOE, the WFOE may exercise its pledge rights at any time by a written notice to Chen Mingzhe.

Our relationship with our controlled VIE entity, CBMG Shanghai, through the VIE agreements, is subject to various operational and legal risks. Management believes that Mr. Chen and Mr. Lu, as record holders of the VIE's registered capital, have no interest in acting contrary to the VIE agreements. However, if Mr. Chen and Lu as shareholders of the VIE entity were to reduce or eliminate their ownership of the registered capital of the VIE entity, their interests

may diverge from that of CBMG and they may seek to act in a manner contrary to the VIE agreements (for example by controlling the VIE entity in such a way that is inconsistent with the directives of CBMG management and the board; or causing non-payment by the VIE entity of services fees). If such circumstances were to occur the WFOE would have to assert control rights through the powers of attorney and other VIE agreements, which would require legal action through the PRC judicial system. While we believe the VIE agreements are legally enforceable in the PRC, there is a risk that enforcement of these agreements may involve more extensive procedures and costs to enforce, in comparison to direct equity ownership of the VIE entity. We believe based on the advice of local counsel that the VIE agreements are valid and in compliance with PRC laws presently in effect. Notwithstanding the foregoing, if the applicable PRC laws were to change or are interpreted by authorities in the future in a manner which challenges or renders the VIE agreements ineffective, the WFOE's ability to control and obtain all benefits (economic or otherwise) of ownership of the VIE entity could be impaired or eliminated. In the event of such future changes or new interpretations of PRC law, in an effort to substantially preserve our rights we may have to either amend our VIE agreements or enter into alternative arrangements which comply with PRC laws as interpreted and then in effect.

For further discussion of risks associated with the above, please see the section below titled “Risks Related to Our Structure.”

BIOPHARMACEUTICAL BUSINESS

The biopharmaceutical business was founded in 2009 by a team of seasoned Chinese-American executives, scientists and doctors. In 2010, we established a facility designed and built to China's Good Manufacture Practice (GMP) standards in Wuxi, China and in 2012 we established a U.S. Food and Drug Administration (FDA) GMP standard protocol-compliant manufacturing facility in Shanghai. In October 2015, we opened a facility designed and built to GMP standards in Beijing. In November 2017, we opened our Zhangjiang facility in Shanghai, of which 40,000 square feet was designed and built to GMP standards and dedicated to advanced cell manufacturing. Our focus has been to serve the rapidly growing health care market in China by marketing and commercializing immune cell and stem cell therapeutics, related tools and products from our patent-protected homegrown and acquired cell technology, as well as by utilizing in-licensed and other acquired intellectual properties.

Our current treatment focal points are KOA and cancer.

Cancer. We are focusing our clinical development efforts on CD20-, CD22- and B-cell maturation antigen (BCMA)-specific CAR-T therapies, T-cell receptor (TCR) and tumor infiltrating lymphocyte (TIL) technologies. With the execution of the Novartis Collaboration Agreement we have prioritized our efforts on working with Novartis to bring Kymriah® to patients in China as soon as practicable. In view of our collaboration with Novartis, we will no longer pursue our own ALL and DLBCL BLA submission with the NMPA. On the research and development side we will endeavor to bring our CD22 HCL and CD19 CAR-T relapsing ALL, CD 20 for CD19 CAR-T Relapsing NHL, BCMA in Multiple Myeloma (MM), NKG2D in acute myeloid leukemia (AML), AFP TCR-T in Hepatocellular carcinoma (HCC) and neoantigen reactive TIL on solid tumors, respectively, in first in human trial as soon as possible. We plan to continue to leverage our quality system and our strong scientific expertise to develop a platform as preferred parties for international pharmaceutical companies to co-develop cell therapies with the Company in China by implementing our quality strategies and leveraging the experience and expertise of our strong scientific team in the U.S and in China.

KOA. In 2013, we completed a Phase I/IIa clinical study, in China, for our KOA therapy named Re-Join®. The trial tested the safety and efficacy of intra-articular injections of autologous haMPCs in order to reduce inflammation and repair damaged joint cartilage. The 6-month follow-up clinical data showed Re-Join® therapy to be both safe and effective.

In Q2 of 2014, we completed patient enrollment for the Phase IIb clinical trial of Re-Join® for KOA. The multi-center study enrolled 53 patients to participate in a randomized, single blind trial. We published 48 weeks’ follow-up data of Phase I/IIa on December 5, 2014. The 48-week data indicated that patients have reported a decrease in pain and a significant improvement in mobility and flexibility, while the clinical data shows our Re-Join® regenerative medicine treatment to be safe. We announced the interim 24 week results for Re-Join® on March 25, 2015 and released positive Phase IIb 48 week follow-up data in January 2016, which shows the primary and secondary endpoints of Re-Join® therapy group having all improved significantly compared to their baseline, which has confirmed some of the Company’s Phase I/IIa results. Our Re-Join® human adipose-derived mesenchymal progenitor cell (haMPC) therapy for KOA is an interventional therapy using proprietary process, culture and medium.

Our process is distinguishable from sole Stromal Vascular Fraction (SVF) therapy. The immunophenotype of our haMPCs exhibited a homogenous population expressing multiple biomarkers such as CD73+, CD90+, CD105+, HLA-I+, HLA-DR-, Actin-, CD14-, CD34-, and CD45-. In contrast, SVF is merely a heterogeneous fraction including preadipocytes, endothelial cells, smooth muscle cells, pericytes, macrophages, fibroblasts, and

adipose-derived stem cells.

In January 2016, we launched the Allogeneic KOA Phase I Trial in China to evaluate the safety and efficacy of AlloJoin™, an off-the shelf allogeneic adipose derived progenitor cell (haMPC) therapy for the treatment of KOA. On August 5, 2016 we completed patient treatment for the Allogeneic KOA Phase I trial, and on December 9, 2016 we announced interim 3-month safety data from the Allogenic KOA Phase I Trial in China. The interim analysis of the trial has preliminarily demonstrated a safety and tolerability profile of AlloJoin™ in the three doses tested, and no serious adverse events (SAE) have been observed. On March 16, 2018, we announced the positive 48-week Allojoin™ Phase I data in China, which demonstrated good safety and early efficacy for the prevention of cartilage deterioration. China has finalized its cell therapy policy in December, 2017. Our AlloJoinTM Phase I IND application with the NMPA has been approved and we plan to implement our Phase II clinical trial soon. We plan to advance the KOA IND application for Rejoin™ with NMPA in the near future.

The unique lines of adult adipose-derived progenitor cells and the immune cell therapies enable us to create multiple cell formulations in treating specific medical conditions and diseases. The quality management systems of CBMG Shanghai were issued a Certificate of ISO-9001:2015 in 2018 and to be updated to 9001:2015 with full components. (i)The cleanrooms in our new facility are ISO 14644 certified and in compliance with China's Good Manufacture Practice (GMP) requirement (2010 edition); (ii) the process equipment and analytical equipment in the new Shanghai facility has been calibrated and qualified, and the biological safety cabinets were also qualified. The quality management systems of WX SBM were also certified as meeting the requirement of ISO-9001:2015, and the facility and equipment were also qualified.

Our proprietary processes and procedures include (i) banking of allogenic cellular product and intermediate product; (ii) manufacturing procedures of GMP-grade viral vectors; (iii) manufacturing procedures of GMP-grade cellular product; (iv) analytical testing to ensure the safety, identity, purity and potency of cellular product.

Recent Developments in Adoptive Immune Cell Therapy (ACT)

The immune system plays an essential role in cancer development and growth. In the past decade, immune checkpoint blockade has demonstrated a major breakthrough in cancer treatment and has currently been approved for the treatment of multiple tumor types. Adoptive immune cell therapy (ACT) with tumor-infiltrating lymphocytes (TIL) or gene-modified T cells expressing novel T cell receptors (TCR) or chimeric antigen receptors (CAR) is another strategy to modify the immune system to recognize tumor cells and thus carry out an anti-tumor effector function.

The TILs consist tumor-resident T cells which are isolated and expanded ex vivo after surgical resection of the tumor. Thereafter, the TILs are further expanded in a rapid expansion protocol (REP). Before intravenous adoptive transfer into the patient, the patient is treated with a lymphodepleting conditioning regimen. TCR gene therapy and CAR gene therapy are ACT with genetically modified peripheral blood T cells. For both treatment modalities, peripheral blood T cells are isolated via leukapheresis. These T cells are then transduced by viral vectors to either express a specific TCR or CAR, respectively. These treatments have shown promising results in various tumor types.

CAR-Ts

According to the U.S. National Cancer Institute's 2013 cancer topics research update on CAR-T-Cells, excitement is growing for immunotherapy—therapies that harness the power of a patient's immune system to combat their disease, or what some in the research community are calling the "fifth pillar" of cancer treatment.

One approach to immunotherapy involves engineering patients' own immune cells to recognize and attack their tumors. This approach is called adoptive cell transfer (ACT). ACT's building blocks are T cells, a type of immune cell collected from the patient's own blood. One of the well-established ACT approaches is CAR-T cancer therapy. After collection, the T cells are genetically engineered to produce special receptors on their surface called chimeric antigen receptors (CARs). CARs are proteins that allow the T cells to recognize a specific protein (antigen) on tumor cells. These engineered CAR-T cells are then grown until the number reaches dose level. The expanded population of CAR-T cells is then infused into the patient. After the infusion, if all goes as planned, the T cells multiply in the patient's body and, with guidance from their engineered receptor, recognize and kill cancer cells that harbor the antigen on their surfaces. This process builds on a similar form of ACT pioneered from NCI's Surgery Branch for patients with advanced melanoma. According to www.cancer.gov/.../research-updates/2013/CAR-T-Cells, in 2013 NCI's Pediatric Oncology Branch commented that the CAR-T cells are much more potent than anything they can achieve with other immune-based treatments being studied. Although investigators working in this field caution that there is still much to learn about CAR T-cell therapy, the early results from trials like these have generated considerable optimism.

CAR-T cell therapies, such as anti-CD19 CAR-T and anti-BCMA CAR-T, have been tested in several hematological indications on patients that are refractory/relapsing to chemotherapy, and many of them have relapsed after stem cell transplantation. All of these patients had very limited treatment option prior to CAR-T therapy. CAR-T has shown encouraging clinical efficacy in many of these patients, and some of them have durable clinical response for years. However, some adverse effects, such as cytokine release syndrome (CRS) and neurological toxicity, have been observed in patients treated with CAR-T cells. For example, in July 2016, Juno Therapeutics, Inc. reported the death of patients enrolled in the U.S. Phase II clinical trial of JCAR015 (anti-CD19 CAR-T) for the treatment of relapsed or refractory B cell acute lymphoblastic leukemia (B-ALL). The US FDA put the trial on hold and lifted the hold within a week after Juno provided satisfactory explanation and solution. Juno attributed the cause of patient deaths to the use of Fludarabine preconditioning and they switched to use only cyclophosphamide pre-conditioning in subsequent enrollment.

In August 2017, the U.S. FDA approved Novartis' Kymriah® (tisagenlecleucel), a CD19-targeted CAR-T therapy, for the treatment of patients up to 25 years old for relapsed or refractory (r/r) acute lymphoblastic leukemia (ALL), the most common cancer in children. Current treatments show a rate of 80% remission using intensive chemotherapy. However, there are almost no conventional treatments to help patients who have relapsed or are refractory to traditional treatment. Kymriah® has shown results of complete and long lasting remission, and was the first FDA-approved CAR-T therapy. In October 2017, the U.S. FDA approved Kite Pharmaceuticals' (Gilead) CAR-T therapy for diffuse large B-cell lymphoma (DLBCL), the most common type of NHL in adults. The initial results of axicabtagene ciloleucel (Yescarta), the prognosis of high-grade chemo refractory NHL is dismal with a medium survival time of a few weeks. Yescarta is a therapy for patients who have not responded to or who have relapsed after at least two other kinds of treatment.

In May 2018, the FDA approved Novartis' Kymriah® for intravenous infusion for its second indication - the treatment of adult patients with relapsed or refractory (r/r) large B-cell lymphoma after two or more lines of systemic therapy including diffuse large B-cell lymphoma (DLBCL) not otherwise specified, high grade B-cell lymphoma and DLBCL arising from follicular lymphoma. Kymriah® is now the only CAR-T cell therapy to receive FDA approval for two distinct indications in non-Hodgkin lymphoma (NHL) and B-cell ALL. On September 25, 2018, we entered into the

Collaboration Agreement with Novartis to manufacture and supply Kymriah® to Novartis in China.

Besides anti-CD19 CAR-T, anti-BCMA CAR-T has shown promising clinical efficacy in treatment of multiple myeloma. For example, bb2121, a CAR-T therapy targeting BCMA, has been developed by Bluebird bio, Inc. and Celgene for previously treated patients with multiple myeloma. Based on preliminary clinical data from the ongoing phase 1 study CRB-401, bb2121 has been granted Breakthrough Therapy Designation by the U.S. FDA and PRIME eligibility by the European Medicines Agency (EMA) in November 2017. We plan to initiate our anti-BCMA CAR-T investigator initiated trial in the near future.

Recent progress in Universal Chimeric Antigen Receptor (UCAR) T-cells showed benefits such as ease of use, availability and the drug pricing challenge. Currently, most therapeutic UCAR products have been developed with gene editing platforms such as CRISPR or TALEN. For example, UCART19 is an allogeneic CAR T-cell product candidate developed by Cellectis for treatment of CD19-expressing hematological malignancies. UCART19 Phase I clinical trials started in adult and pediatric patients in Europe in June 2016 and in the U.S. in 2017. The use of UCAR may has the potential to overcome the limitation of the current autologous approach by providing an allogeneic, frozen, “off-the-shelf” T cell product for cancer treatment.

TILs

While CAR-T cell therapy has been proven successful in treatment of several hematological malignancies, other cell therapy approaches, including Tumor Infiltrating Lymphocytes (TIL) are being developed to treat solid tumors. For example, Iovance Biotherapeutics is focused on the development of autologous tumor-directed TILs for treatments of patients with various solid tumor indications. Iovance is conducting several Phase 2 clinical trials to assess the efficacy and safety of autologous TIL for treatment of patients with Metastatic Melanoma, Squamous Cell Carcinoma of the Head and Neck, Non-Small Cell Lung Cancer (NSCLC) and Cervical Cancer in the US and Europe.

TCRs

Adaptimmune is partnering with GlaxoSmithKline to develop TCR-T therapy targeting the NY-ESO-1 peptide, which is present across multiple cancer types. Their NY-ESO SPEAR T-cell has been used in multiple Phase 1/2 clinical trials in patients with solid tumors and haematological malignancies, including synovial sarcoma, myxoid round cell liposarcoma, multiple myeloma, melanoma, NSCLC and ovarian cancer. The initial data suggested positive clinical responses and evidence of tumor reduction in patients. NY-ESO SPEART T-cell has been granted breakthrough therapy designation by the U.S. FDA and PRIME regulatory access in Europe. Adaptimmune's other TCR-T product, AFP SPEAR T-cell targeting AFP peptide, is aimed at the treatment of patients with hepatocellular carcinoma (HCC). AFP SPEAR T-cell is in a Phase I study and enrolling HCC patients in the U.S.

CBMG's Adoptive Immune Cell Therapy (ACT) Programs

In December 2017, the Chinese government issued trial guidelines concerning the development and testing of cell therapy products in China. Although these trial guidelines are not yet codified as mandatory regulation, we believe they provide a measure of clarity and a preliminary regulatory pathway for our cell therapy operations in a still uncertain regulatory environment. On April 18 and April 21, 2018, the CDE posted on its website acceptance of the IND application for CAR-T cancer therapies in treating patients with NHL and adult ALL submitted by the Company's wholly-owned subsidiaries Cellular Biomedicine Group (Shanghai) Ltd. and Shanghai Cellular Biopharmaceutical Group Ltd. On September 25, 2018 we entered into a strategic licensing and collaboration agreement with Novartis to manufacture and supply Kymriah® in China. As part of the deal, Novartis took approximately a 9% equity stake in CBMG, and CBMG is discontinuing development of its own anti-CD19 CAR-T cell therapy. This collaboration with Novartis reflects our shared commitment to bringing the first marketed CAR-T cell therapy, Kymriah®, a transformative treatment option currently approved in the US, EU and Canada for two difficult-to-treat cancers, to China where the number of patients in need remains the highest in the world. Together with Novartis, we plan to bring the first CAR-T cell therapy to patients in China as soon as possible. We continue to develop CAR-T therapies other than CD 19 on our own and Novartis has the first right of negotiation on these CAR-T developments. The CBMG oncology pipeline includes CAR-T targeting CD20-, CD22- and B-cell maturation antigen (BCMA), AFP TCR-T, which could specific eradicate AFP positive HCC tumors and TIL technologies. Our current priority is to collaborate with Novartis to bring Kymriah® to China. At the same time, we remain committed to developing our existing pipeline of immunotherapy candidates for hematologic and solid tumor cancers to help deliver potential new treatment options for patients in China. We are striving to build a competitive research and development function, a translational medicine unit, along with a well-established cellular manufacturing capability and ample capacity, to support Kymriah® in China and our development of multiple assets in multiple indications. We believe that these efforts will allow us to boost the Company's Immuno-Oncology presence. We have initiated a clinical trial to evaluate anti-BCMA CAR-T therapy in Multiple Myeloma ("MM") and expect to initiate first in-human studies for multiple CAR-T and TCR-T programs in 2019.

Market for Stem Cell-Based Therapies

The forecast is that in the United States, shipments of treatments with stem cells or instruments which concentrate stem cell preparations for injection into painful joints will fuel an overall increase in the use of stem cell based treatments and an increase to $5.7 billion in 2020, with key growth areas being Spinal Fusion, Sports Medicine and Osteoarthritis of the joints. According to Centers for Disease Control and Prevention. Prevalence of doctor-diagnosed arthritis and arthritis-attributable activity limitation United States. 2010-2012, Osteoarthritis (OA) is a chronic disease that is characterized by degeneration of the articular cartilage, hyperosteogeny, and ultimately, joint destruction that can affect all of the joints. According to Dillon CF, Rasch EK, Gu Q et al. Prevalence of knee osteoarthritis in the United States: Arthritis Data from the Third National Health and Nutrition Examination Survey 1991-94. J Rheumatol. 2006, the incidence of OA is 50% among people over age 60 and 90% among people over age 65. KOA accounts for the majority of total OA conditions and in adults, OA is the second leading cause of work disability and the disability incidence is high (53%). The costs of OA management have grown exponentially over recent decades, accounting for up to 1% to 2.5% of the gross national product of countries with aging populations, including the U.S., Canada, the UK, France, and Australia. According to the American Academy of Orthopedic Surgeons (AAOS), the only pharmacologic therapies recommended for OA symptom management are non-steroidal anti-inflammatory drugs (NSAIDs) and tramadol (for patients with symptomatic osteoarthritis). Moreover, there is no approved disease modification therapy for OA in the world. Disease progression is a leading cause of hospitalization and ultimately requires joint replacement surgery. According to an article published by the Journal of the American Medical Association, approximately 505,000 hip replacements and 723,000 knee replacements were performed in the United States in 2014 and they cost more than $20 billion. International regulatory guidelines on clinical investigation of medicinal products used in the treatment of OA were updated in 2015, and clinical benefits (or trial outcomes) of a disease modification therapy for KOA has been well defined and recommended. Medicinal products used in the treatment of osteoarthritis need to provide both a symptom relief effect for at least 6 months and a structure modification effect to slow cartilage degradation by at least 12 months. Symptom relief is generally measured by a composite questionnaire Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score, and structure modification is measured by MRI, or radiographic image as accepted by international communities. The Company uses the WOMAC as primary end point to demonstrate symptom relief, and MRI to assess structure and regeneration benefits as a secondary endpoint.

According to the Foundation for the National Institutes of Health, there are 27 million Americans with Osteoarthritis (OA), and symptomatic Knee Osteoarthritis (KOA) occurs in 13% of persons aged 60 and older. The International Journal of Rheumatic Diseases, 2011 reports that approximately 57 million people in China suffer from KOA. Currently no treatment exists that can effectively preserve knee joint cartilage or slow the progression of KOA. Current common drug-based methods of management, including anti-inflammatory medications (NSAIDs), only relieve symptoms and carry the risk of side effects. Patients with KOA suffer from compromised mobility, leading to sedentary lifestyles; doubling the risk of cardiovascular diseases, diabetes, and obesity; and increasing the risk of all causes of mortality, colon cancer, high blood pressure, osteoporosis, lipid disorders, depression and anxiety. According to the Epidemiology of Rheumatic Disease (Silman AJ, Hochberg MC. Oxford Univ. Press, 1993:257), 53% of patients with KOA will eventually become disabled.

Our Strategy

CBMG is a drug development company focusing on developing cell therapies first in China, and seek opportunity globally when appropriate. Our goal is to develop safe and effective cellular therapies for indications that represent a large unmet need in China. We intend to use our first-mover advantage in China, against a backdrop of enhanced regulation by the central government, to differentiate ourselves from the competition and establish a leading position in the China cell therapeutic market. We believe that few competitors in China are as well-equipped as we are in the clinical trial development, diversified international standard compliant manufacturing facilities, quality assurance and control processes, regulatory compliance vigor, as well as continuous process improvement to speed up manufacturing timelines for its cell therapy clinical trials and commercial launch.

The key issues with cell therapy as a modality are drug therapeutic index, institutionalized, scalable manufacturing and an affordable price for the patients. Our continuous improvement approach in our manufacturing platform is unique as we utilize a semi-automatic, fully closed system, which is expected to lead to economies of scale. Additionally, our focus on being a fully integrated, cell therapy company has enabled us to be one of only a few companies that are able to manufacture clinical grade lentivirus in China.

In China, the Good Clinical Practice ("GCP") compliant Investigator Initialized Trial ("IIT") only requires IRB from hospital and local approval. IITs can provide early evidences of proof concept for novel drugs which are time and cost efficient. IITs are also good ways to identify and develop novel platforms. Currently, we have our own drug development pipeline in CAR-T, AFP TCR-T, TIL and KOA. Our R&D team continues to identify additional platform cell therapy technologies to develop internally or acquire established technologies.

In addition to the manufacturing Novartis' Kymriah® for patients in China that is contemplated by the Collaboration Agreement and Manufacture and Supply Agreement with Novartis, we are also actively developing and evaluating other therapies comprised of other CAR-T, TCR-T and TIL. We plan to advance our KOA Allojoin™ to Phase II clinical trial and IND applications for Rejoin™ with the NMPA in the near future.

In addition to our drug development efforts, we also actively seek co-development opportunities with international partners. Such partnership will enable us to take advantage of the technologies of our partners while leveraging our quality control and manufacturing infrastructure and further expand our pipelines in a relatively rapid fashion.

In order to expedite fulfillment of patient treatment, we have been actively developing technologies and products with a strong intellectual properties protection, including haMPC, derived from fat tissue, for the treatment of KOA and other indications. CBMG's world-wide exclusive license to the AFP TCR-T patent rights owned by the Augusta University provides an enlarged opportunity to expand the application of CBMG's cancer therapy-enabling technologies and to initiate clinical trials with leading cancer hospitals.

Our proprietary and patent-protected production processes enable us to produce raw material, manufacture cells, and conduct cell banking and distribution. Our clinical protocols include medical assessment to qualify each patient for treatment, evaluation of each patient before and after a specific therapy, cell transplantation methodologies including dosage, frequency and the use of adjunct therapies, handling potential adverse effects and their proper management. Applying our proprietary intellectual property, we plan to customize specialize formulations to address complex diseases and debilitating conditions.

We have a total of approximately 70,000 square feet of manufacturing space in three locations, the majority of which is in the new Shanghai facility. We operate our manufacturing facilities under the design of the standard GMPconditions as well ISO standards. We employ institutionalized and proprietary process and quality management system to optimize reproducibility and to hone our efficiency. Our Beijing, Shanghai and Wuxi facilities are designed

and built to meet international GMP standards. With our integrated Plasmid, Viral Vectors platforms, our T cells manufacturing capacities are highly distinguishable from other companies in the cellular therapy industry.

Most importantly, our seasoned cell therapy team members have decades of highly-relevant experience in the United States, China, and European Union. We believe that these are the primary factors that make CBMG a high quality cell products manufacturer in China.

Our Targeted Indications and Potential Therapies

The chart below illustrates CBMG's pipelines:

** NMPA has approved our Phase I IND application under the new regulation. We plan to start our Phase II clinical trial as soon as practicable.

* December 2017, Chinese government issued trial guidelines concerning development and testing of cell therapy products in China. Albeit we finished the Phase IIb study prior to December 2017 we have yet to file the IND anew under the new regulation. We plan to apply for IND under the new regulation as soon as practicable.

Immuno-oncology (I/o)

Our CAR-T platform is built on lenti-virial vector and second-generation CAR design, which is used by most of the current trials and studies. We select the patient population for each asset and indication to allow the optimal path forward for potential regulatory approval. We integrate the state of art translational medicine effort into each clinical study to aid in dose selection, to confirm the mechanism of action and proof of concept, and to attempt to identify the optimal targeting patient population. We plan to continue to grow our translational medicine team and engage key opinion leaders to support our development efforts.

We have developed a serial of CAR-Ts to treat hematological malignancies including CD20, CD22, and BCMA CAR-Ts, which have been proved to be potent and effective in treating hematology tumors in early phase of clinical studies.

CD20 CAR

CD20 is broadly overexpressed in a serial of B cell malignant tumors. In the patients relapsed after CD19 CAR-T treatment, the expression of CD20 on target tumor cells is relatively stable. It is proven to be an optimal target for treating CD19 CAR-T relapsing patients. We have developed a novel CD20 CARs clinical lead, which demonstrated strong anti-tumor activity in both in vitro assays and in vivo animal studies. We have filed patent in China and plan to initiate first in human investigator initiated trial with CD19 CAR-T relapsed NHL patients in 2019.

CD22 CAR

CD22 is another surface maker highly expressed in B cell malignancies especially in Hairy cell leukemia. It also expresses in the patients relapsed after CD19 CAR-T treatment. We have developed a novel CD22 CARs clinical lead, which displayed effective anti-tumor activity in in vitro cytotoxicity assays. We plan to initiate investigator initiated trial with CD19 CAR-T relapsing ALL patients and Hairy cell leukemia in the first half of 2019.

BCMA CAR

BCMA is a member of the TNF receptor superfamily, universally expressed in multiple myeloma (MM) cells. It is not detectable in normal tissues except plasma and mature B cells. It is proven to be an effective and safer target for treating refractory MM patients in several clinical trials. We have developed unique BCMA CARs. Our BCMA CAR clinical lead exhibits potent anti-tumor activity both in vitro and in vivo. We have filed patent for BCMA CAR in China and initiated investigator initiated trial in refractory MM patients in January, 2019.

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NKG2D CAR

Early studies on CAR-T therapy targeting NK cell signaling has shown promising clinical benefits. We are developing novel second generation CARs using NKG2D extracellular fragment as antigen binding domain. These CARs can recognize targets tumor cells expressing NKG2D ligands. We plan to initiate first in human investigator initiated trial with R/R AML patients in the second half of 2019.

Solid tumors pose more challenges than hematological cancers. The patients are more heterogeneous, making it difficult to have one drug to work effectively in the majority of the patients in any cancer indication. The duration of response is most likely shorter and patients are likely to relapse even after initial positive clinical response. We will continue our effort in developing cell based therapies to target both hematological cancers and solid tumors.

AFP TCR

We license the technology from Augusta University. We are continuing our evaluation on the efficacy and specificity of the AFP TCRs to identity the most appropriate candidate for first time in human (FTIH) study. We plan to redirect Human T cells with the AFP TCRs and evaluate their anti-tumor activity on in vitro cytokine release and cytotoxicity assays; and potential on/off-target toxicity including allo-reactivity as well as in vivo efficacy tests in animal models.

TIL

Augmented by the U.S. National Cancer Institute ("NCI") technology license, CBMG is developing neoantigen reactive TIL therapies to treat immunogenic cancers. In the early stages of cancer, lymphocytes infiltrate into the tumor, specifically recognizing the tumor targets and mediating anti-tumor response. These cells are known as TIL. TIL based therapies have shown encouraging clinical results in early development. For example, in Phase-2 clinical studies in patients with metastatic melanoma performed by Dr. Rosenberg at NCI, TIL therapy demonstrated robust efficacy in patients with metastatic melanoma with objective response rates of 56% and complete response rates of 24%. We plan to start our development with NSCLC in 2019, and eventually expand into other cancer indications.

Knee Osteoarthritis (KOA)

We are currently pursuing two primary therapies for the treatment of KOA: Re-Join® therapy and AlloJoin™ therapy.

We completed the Phase I/IIa clinical trial for the treatment of KOA. The trial tested the safety and efficacy of intra-articular injections of autologous haMPCs in order to reduce inflammation and repair damaged joint cartilage. The 6-month follow-up clinical data showed Re-Join® therapy to be both safe and effective.

In the second quarter of 2014, we completed patient enrollment for the Phase IIb clinical trial of Re-Join® for KOA. The multi-center study has enrolled 53 patients to participate in a randomized, single blind trial. We published 48 weeks' follow-up data of Phase I/IIa on December 5, 2014. The 48 weeks' data indicated that patients have reported a decrease in pain and a significant improvement in mobility and flexibility, while the clinical data shows our Re-Join® regenerative medicine treatment to be safe. We announced positive Phase IIb 48-week follow-up data in January 2016, with statistical significant evidence that Re-Join® enhanced cartilage regeneration, which concluded the planned phase IIb trial.

In January 2016, we launched the Allogeneic KOA Phase I Trial in China to evaluate the safety and efficacy of AlloJoin™, an off-the shelf haMPC therapy for the treatment of KOA. On August 5, 2016 we completed patient treatment for the Allogeneic KOA Phase I trial. On August 5, 2016 we completed patient treatment for the Allogenic

KOA Phase I Trial, and on December 9, 2016, we announced interim 3-month safety data from the Allogenic KOA Phase I Trial in China. The interim analysis of the trial has preliminarily demonstrated a safety and tolerability profile of AlloJoin™ in the three doses tested, and no SAEs have been observed. On March 16, 2018, we announced the positive 48-week Allojoin™ Phase I data in China, which demonstrated good safety and early efficacy for the prevention of cartilage deterioration. In January 2019, the NMPA approved the Company's Phase I AlloJoin™ IND application. We plan to initiate our Phase II AlloJoin™ clinical trial as soon as practicable.

Osteoarthritis is a degenerative disease of the joints. KOA is one of the most common types of osteoarthritis. Pathological manifestation of osteoarthritis is primarily local inflammation caused by immune response and subsequent damage of joints. Restoration of immune response and joint tissues are the objective of therapies.

According to International Journal of Rheumatic Diseases, 2011, 53% of KOA patients will degenerate to the point of disability. Conventional treatment usually involves invasive surgery with painful recovery and physical therapy. As drug-based methods of management are ineffective, the same journal estimates that some 1.5 million patients with this disability will degenerate to the point of requiring artificial joint replacement surgery every year. However, only 40,000 patients will actually be able to undergo replacement surgery, leaving the majority of patients to suffer from a life-long disability due to lack of effective treatment.

Adult mesenchymal stem cells can currently be isolated from a variety of adult human sources, such as liver, bone marrow, and adipose (fat) tissue. We believe the advantages in using adipose tissue (as opposed to bone marrow or blood) are that it is one of the richest sources of multipotent cells in the body, the easy and repeatable access to fat via liposuction, and the simple cell isolation procedures that can begin to take place even on-site with minor equipment needs. The procedure we are testing for autologous KOA involves extracting a very small amount of fat using a minimally invasive extraction process which takes up to 20 minutes and leaves no scarring. The haMPC cells are then processed and isolated on site, and injected intra articularly into the knee joint with ultrasound guidance. For allogeneic KOA we use donor haMPC cells.

These haMPC cells are capable of differentiating into bone, cartilage, and fat under the right conditions. As such, haMPCs are an attractive focus for medical research and clinical development. Importantly, we believe both allogeneic and autologously sourced haMPCs may be used in the treatment of disease. Numerous studies have provided preclinical data that support the safety and efficacy of allogeneic and autologous haMPC, offering a choice for those where factors such as donor age and health are an issue.

haMPCs are currently being considered as a new and effective treatment for osteoarthritis, with a huge potential market. Osteoarthritis is one of the ten most disabling diseases in developed countries. Worldwide estimates are that 9.6% of men and 18.0% of women aged over 60 years have symptomatic osteoarthritis. It is estimated that the global OA therapeutics market was worth $4.4 billion in 2010 and is forecast to grow at a compound annual growth rate of 3.8% to reach $5.9 billion by 2018.

In order to bring haMPC-based KOA therapy to market, our market strategy is to: (a) establish regional laboratories that comply with cGMP standards in Shanghai and Beijing that meet Chinese regulatory approval; and (b) submit to the NMPA an IND package for Allojoin™ to treat patients with donor haMPC cells, and (c) file joint applications with Class AAA hospitals to use Re-Join® to treat patients with their own haMPC cells.

Our competitors are pursuing treatments for osteoarthritis with knee cartilage implants. However, unlike their approach, our KOA therapy is not surgically invasive – it uses a small amount (30ml) of adipose tissue obtained via liposuction from the patient, which is cultured and re-injected into the patient. The injections are designed to induce the body’s secretion of growth factors promoting immune response and regulation, and regrowth of cartilage. The down-regulation of the patient’s immune response is aimed at reducing and controlling inflammation which is a central cause of KOA.

We believe our proprietary method, subsequent haMPC proliferation and processing know-how will enable haMPC therapy to be a low cost and relatively safe and effective treatment for KOA. Additionally, banked haMPCs can continue to be stored for additional use in the future.

Based on current estimates, we expect to generate collaboration payment and revenues through our sale of Kymriah® products to Novartis within the next two to three years. We plan to systematically advance our own cell therapy pipeline and timely seek BLA opportunities to commercialize our products within the next three to four years although we cannot assure you that we will be successful at all or within the foregoing timeframe.

Competition

Many companies operate in the cellular biopharmaceutical field. Currently there are several approved stem cell therapies on the market including Canada's pediatric graft-versus-host disease and the European Commission's approval in March 2018 for the treatment of complex perianal fistulas in adult Crohn's disease. There are several public and private cellular biopharmaceutical-focused companies outside of China with varying phases of clinical trials addressing a variety of diseases. We compete with these companies in bringing cellular therapies to the market. However, our focus is to develop a core business in the China market. This difference in focus places us in a different competitive environment from other western companies with respect to fund raising, clinical trials, collaborative partnerships, and the markets in which we compete.

The PRC central government has a focused strategy to enable China to compete effectively in certain designated areas of biotechnology and the health sciences. Because of the aging population in China, China's Ministry of Science and Technology (MOST) has targeted stem cell development as high priority field, and development in this field has been intense in the agencies under MOST. For example, the 973 Program has funded a number of stem cell research projects such as differentiation of human embryonic stem cells and the plasticity of adult stem cells. To the best of our knowledge, none of the companies in China are utilizing our proposed international manufacturing protocol and our unique technologies in conducting what we believe will be fully compliant NMPA-sanctioned clinical trials to commercialize cell therapies in China. Our management believes that it is difficult for most of these Chinese companies to turn their results into translational stem cell science or commercially successful therapeutic products using internationally acceptable standards.

We compete globally with respect to the discovery and development of new cell-based therapies, and we also compete within China to bring new therapies to market. In the biopharmaceutical specialty segment, namely in the areas of cell processing and manufacturing, clinical development of cellular therapies and cell collection, processing and storage, are characterized by rapidly evolving technology and intense competition. Our competitors worldwide include pharmaceutical, biopharmaceutical and biotechnology companies, as well as numerous academic and research institutions and government agencies engaged in drug discovery activities or funding, in the U.S., Europe and Asia. Many of these companies are well-established and possess technical, research and development, financial, and sales and marketing resources significantly greater than ours. In addition, many of our smaller potential competitors have formed strategic collaborations, partnerships and other types of joint ventures with larger, well established industry competitors that afford these companies potential research and development and commercialization advantages in the technology and therapeutic areas currently being pursued by us. Academic institutions, governmental agencies and other public and private research organizations are also conducting and financing research activities which may produce products directly competitive to those being commercialized by us. Moreover, many of these competitors may be able to obtain patent protection, obtain government (e.g. FDA) and other regulatory approvals and begin commercial sales of their products before us.

Our primary competitors in the field of stem cell therapy for osteoarthritis, and other indications include Cytori Therapeutics Inc., Caladrius Biosciences, Inc. and others. Among our competitors, to our knowledge, the only ones based in and operating in Greater China are Lorem Vascular, which has partnered with Cytori to commercialize Cytori Cell Therapy for the cardiovascular, renal and diabetes markets in China and Hong Kong, and OLife Bio, a Medi-Post joint venture with JingYuan Bio in Taian, Shandong Province, who planned to initiate clinical trial in China in 2016. To our knowledge, none of the aforementioned companies have made any progress or advancement in the clinical development in China.

Our primary competitors in the field of cancer immune cell therapies include pharmaceutical, biotechnology companies such as Eureka Therapeutics, Inc., Iovance Biotherapeutics Inc., Juno Therapeutics, Inc. (BMS), Kite Pharma, Inc. (Gilead), CARSgen, Sorrento Therapeutics, Inc. and others. Among our competitors, the ones based in

and operating in Greater China are CARsgen, Hrain Biotechnology, Nanjing Legend Biotechnology Cooperated with Johnson-Johnson , Galaxy Biomed, Persongen and Anke Biotechnology, Shanghai Minju Biotechnology, Unicar Therapy (Cooperated with Terumo BCT), Wuxi Biologics, Junshi Pharma, BeiGene, Immuno China Biotech, Chongqing Precision Biotech, SiDanSai Biotechnology and China Oncology Focus Limited, which has licensed Sorrento's anti-PD-L1 monoclonal antibody for Greater China. Other western big pharma and biotech companies in the cancer immune cell therapies space have made inroads in China by partnering with local companies. For example, in April, 2016, Seattle-based Juno Therapeutics, Inc. (Celgene) started a new company with WuXi AppTec in China named JW Biotechnology (Shanghai) Co., Ltd. by leveraging Juno's CAR-T and TCR technologies together with WuXi AppTec's R&D and manufacturing platform and local expertise to develop novel cell-based immunotherapies for patients with hematologic and solid organ cancers. In January 2017, Shanghai Fosun Pharmaceutical created a joint venture with Santa Monica-based Kite Pharma Inc. (Gilead) to develop, manufacture and commercialize CAR-T and TCR products in China. In late 2017 Gilead acquired Kite Pharma for $11.9 billion. On March 6, 2018 Celgene completed its acquisition of Juno Therapeutics for approximately $9 billion. On January 3, 2019, Bristol-Myers Squibb announced it will acquire Celgene in a cash and stock transaction with an equity value of approximately $74 billion.

The NMPA has received IND applications for CD19 chimeric antigen receptor T cells cancer therapies from many companies and have granted the initial phase of acceptance to several companies thus far.

Additionally, in the general area of cell-based therapies for knee osteoarthritis ailments, we potentially compete with a variety of companies, from big pharma to specialty medical products or biotechnology companies. Some of these, such as Abbvie, Merck KGaA, Sanofi, Teva, GlaxosmithKline, Baxter, Johnson & Johnson, Sanumed, Medtronic and Miltenyi Biotech, are well-established and have substantial technical and financial resources compared to ours. However, as cell-based products are only just emerging as viable medical therapies, many of our more direct competitors are smaller biotechnology and specialty medical products companies comprised of Vericel Corporation, Regeneus Ltd., Advanced Cell Technology, Inc., Nuo Therapeutics, Inc., Arteriocyte Medical Systems, Inc., ISTO technologies, Inc., Ember Therapeutics, Athersys, Inc., Bioheart, Inc., Cytori Therapeutics, Inc., Harvest Technologies Corporation, Mesoblast, Pluristem, Inc., TissueGene, Inc. Medipost Co. Ltd. and others. There are also several non-cell-based, small molecule and peptide clinical trials targeting knee osteoarthritis, and several other FDA approved treatments for knee pain.

Certain CBMG competitors also work with adipose-derived stem cells. To the best of our knowledge, none of these companies are currently utilizing the same technologies as ours to treat KOA, nor to our knowledge are any of these companies conducting government-approved clinical trials in China.

Some of our targeted disease applications may compete with drugs from traditional pharmaceutical or Traditional Chinese Medicine companies. We believe that our chosen targeted disease applications are not effectively in competition with the products and therapies offered by traditional pharmaceutical or Traditional Chinese Medicine companies.

We believe we have a strategic advantage over our competitors based on our outstanding quality management system, robust and efficient manufacturing capability which we believe is possessed by few to none of our competitors in China, in an industry in which meeting exacting standards and achieving extremely high purity levels is crucial to success. In addition, in comparison to the broader range of cellar biopharmaceutical firms, we believe we have the advantages of cost and expediency, and a first mover advantage with respect to commercialization of cell therapy products and treatments in the China market.

Intellectual Property

We have built our intellectual property portfolio with a view towards protecting our freedom of operation in China within our specialties in the cellular biopharmaceutical field. Our portfolio contains patents, trade secrets, and know-how.

The production of stem cells for therapeutic use requires the ability to purify and isolate these cells to an extremely high level of purity. Accordingly, our portfolio is geared toward protecting our proprietary process of isolation, serum free-cell expansion, cell processing and related steps in stem cell production. The combination of our patents and trade secrets protects various aspects of our cell line production methods and methods of use, including methods of isolation, expansion, freezing, preservation, processing and use in treatment.

For our haMPC therapy:

We believe our intellectual property portfolio for haMPC is well-built and abundant. It covers aspects of adipose stem cell medicine production, including acquisition of human adipose tissue, preservation, and storage, tissue, processing, stem cell purification, expansion, and banking, formulation for administration, and administration methods.

Our portfolio also includes adipose derived cellular medicine formulations and their applications in the potential treatment of degenerative diseases and autoimmune diseases, including osteoarthritis, rheumatoid arthritis, as well as potential applications to anti-aging.

Our haMPC intellectual property portfolio:

- provides coverage of all steps in the production process;
- enables achievement of high yields of Stromal Vascular Fraction (SVF), i.e. stem cells derived from adipose tissue extracted by liposuction;
- makes adipose tissue acquisition convenient and useful for purposes of cell banking; and
- employs preservation techniques enabling long distance shipment of finished cell medicine products.

For our CAR-T and Tcm cancer immune cell therapy:

Our recent amalgamation of technologies from AG and PLAGH in the cancer cell therapy is comprehensive and well-rounded. It comprises of T cell clonality, Chimeric Antigen Receptor T cell (CAR-T) therapy, its recombinant expression vector CD19, CD20, CD30 and Human Epidermal Growth Factor Receptor's (EGFR or HER1) Immuno-Oncology patents applications, several preliminary clinical studies of various CAR-T constructs targeting CD19-positive acute lymphoblastic leukemia, CD20-positive lymphoma, CD30-positive Hodgkin's lymphoma and EGFR-HER1-positive advanced lung cancer, and Phase I/II clinical data of the aforementioned therapies and manufacturing knowledge.

In addition, our intellectual property portfolio covers various aspects of other therapeutic categories including umbilical cord-derived huMPC therapy, bone marrow-derived hbMPC therapy.

Moreover, our clinical trial protocols are proprietary, and we rely upon trade secret laws for protection of these protocols.

We intend to continue to vigorously pursue patent protection of the technologies we develop, both in China and under the Patent Cooperation Treaty (“PCT”). Additionally, we require all of our employees to sign proprietary information

and invention agreements, and compartmentalize our trade secrets in order to protect our confidential information.

Patents

The following is a brief list of our patents, patent applications and work in process as of December 31, 2018:

	China Patents	U.S. Patents	EU Patents	Rest of the World	Patent Cooperation Treaty (PCT)	Total
Work in Process	8	-	-	-	-	8
Patents Filed, Pending	29	2	1	-	7	39
Granted	24	3	1	2	-	30
Total	61	5	2	2	7	77

Generally, our patents cover technology, methods, design and composition of and relating to medical device kits used in collecting cell specimens, cryopreservation of cells, purification, use of stem cells in a range of potential therapies, adipose tissue extraction, cell preservation and transportation, preparation of chimeric antigen receptor, gene detection and quality control.

Manufacturing

We manufacture cells for our own research, testing and clinical trials. We are scaling up and optimizing our manufacturing capacity. Our facilities are operated by a manufacturing and technology team with decades of relevant experience in China, EU, and the U.S.

In any precision setting, it is vital that all controlled environment equipment meet certain design standards. We operate our manufacturing facilities under good manufacturing practice ("GMP") conditions as well the ISO standards. We employ an institutionalized and proprietary process and quality management system to optimize reproducibility and to hone our efficiency. Three of our facilities designed and built to GMP in Beijing, Shanghai and Wuxi, China meet international standards. Specifically, our Shanghai cleanroom facility underwent rigorous cleanroom certification since 2013.

The quality management systems of CBMG Shanghai have been assessed and certified as meeting the requirements of ISO 9001: 2015. (i)The cleanrooms in our new facility have been inspected and certified to meet the requirements of ISO 14644 and in compliance with China’s Good Manufacture Practice (GMP) requirements (2010 edition); (ii) the equipment in the new Shanghai facility has been calibrated and qualified, and the biological safety cabinets were also qualified. The quality management systems of WX SBM were certified as meeting the requirements of ISO 9001: 2015, and the facility and equipment in Wuxi Site were also qualified.

With our integrated GMP level plasmid, viral vectors, and CAR-T cell chemistry, manufacturing, and controls processes as well as planned capacity expansion, we believe that we are highly distinguishable with other companies in the cellular therapy industry.

In January 2017, we leased a 113,038-square foot building located in the “Pharma Valley” of Shanghai, the People’s Republic of China. We are establishing 43,000 square foot facilities there with 25 clean-rooms and equipped with 12 independent production lines to support clinical batch production and commercial scale manufacturing. With the above expansion, the Company could support up to thousands of patients with CAR-T therapy and thousands of KOA patients with the stem cell therapy per annum.

Employees

As of December 31, 2018, the total enrollment of full time employees of the Company is 193. Among these 193 professionals, 122 have postgraduate and PhD degrees, 61 have undergraduate degrees. In other words, 94.8% of our employees have germane educational background. As a biotech company, 139 out of our 193 employees have medical or biological scientific credentials and qualifications.

Facilities

Our corporate headquarters are located at 1345 Avenue of Americas, 15th Floor, New York, New York 10105. Our aggregate monthly rental expense for our New York, Maryland and China's offices for administration, R&D and manufacturing facilities is $265,000 for a combined approximately 181,000 square feet.

Certain Tax Matters

Following the completion of our merger with EastBridge Investment Group Corporation (Delaware) on February 6, 2013, CBMG and its controlled subsidiaries (the "CBMG Entities") became a Controlled Foreign Corporation (CFC) under U.S. Internal Revenue Code Section 957. As a result, the CBMG Entities are subject to anti-deferral provisions within the U.S. federal income tax system that were designed to limit deferral of taxable earnings otherwise achieved by putting profit in low taxed offshore entities. While the CBMG Entities are subject to review under such provisions, the CBMG Entities' earnings are from an active business and should not be deemed to be distributions made to its U.S. parent company.

On December 22, 2017, the tax reform bill was passed (Tax Cut and Jobs Act (H.R.1)) and reduced top corporate tax rate from 35% to 21% effective from January 1, 2018. Pursuant to this new Act, non-operating loss carry back period is eliminated and the loss carry forward period was expanded from 20 years to an indefinite period.

Pursuant to the Corporate Income Tax Law of the PRC, all of the Company's PRC subsidiaries are liable to PRC CIT at a rate of 25% except for AG, Cellular Biomedicine Group Ltd. (Shanghai) ("CBMG Shanghai") and Shanghai Cellular Biopharmaceutical Group Ltd. ("SH SBM"). According to Guoshuihan 2009 No. 203, if an entity is certified as an "advanced and new technology enterprise", it is entitled to a preferential income tax rate of 15%. CBMG Shanghai obtained the certificate of "advanced and new technology enterprise" dated October 30, 2015 with an effective period of three years. CBMG Shanghai re-applied and SH SBM applied for the certificate of "advanced and new technology enterprise" in 2018. Both of them received preliminary approval in November 2018 and are now in the public announcement period. Final approval will be obtained if there is no objection raised during the public announcement period. AG was certified as a "small and micro enterprise" in its 2017 annual tax filing and enjoys the preferential income tax rate of 20%. AG's eligibility for the reduced tax rate will need to be verified annually.

BIOPHARMACEUTICAL REGULATION

PRC Regulations

Our cellular medicine business operates in a highly regulated environment. In China, aside from provincial and local licensing authorities, hospitals and their internal ethics and utilization committees, and a system of institutional review boards ("IRBs") which in many cases have members appointed by provincial authorities. With respect to cell therapies, however, the Chinese regulatory infrastructure is less established and China has not yet codified any mandatory regulations governing the development of cell therapy products. In December 2017, the Chinese government issued trial guidelines concerning development and testing of cell therapy products, including stem cell treatments and immune cell therapies such as CAR-T cell therapeutics. These trial guidelines are not mandatory regulation but provide some general principles and basic requirements for cell therapy products in the areas of pharmaceutical research, non-clinical research and clinical research. The cell therapy products provided in the trial guideline refer to the human-sourced living cell products which are used for human disease therapy, whose source, operation and clinical trial process are in line with ethics and whose research and registration application are in line with regulations on pharmaceutical administration. The competent authority of pharmaceutical administration is the NMPA. It is further clarified by the NMPA that the non-registered clinical trial data would be acceptable for drug registration on a case by case basis, pending on the consistency of the samples used for the clinical trial and the drug applied for

registration, the generation process of the clinical trial data, whether the data is authentic, complete, accurate and traceable to the source, and the inspection outcome of the NMPA on the clinical trial. Moreover, an applicant of the clinical trial of the said cell therapy products can propose the phases of the clinical trial and the trial plan by itself (generally the trial can be divided into early stage clinical trial phase and confirmatory clinical trial phase), instead of the application of the traditional phases I, II and III of a clinical trial. However, it remains unclear if any of our clinical trials will be offered U.S.FDA-like Fast Track designation as maintenance therapy in subjects with advanced cancer who have limited options following surgery and front-line platinum/taxane chemotherapy to improve their progression-free survival. By applying U.S. standards and protocols and following authorized treatment plans in China, we believe we are differentiated from our competition as we believe we have first mover's advantage in an undeveloped industry. In addition, we have begun to review the feasibility of performing synergistic U.S. clinical studies.

PRC Operating Licenses

Our business operations in China are subject to customary regulation and licensing requirements under regulatory agencies including the local Administration for Market Regulation, General Administration of Quality Supervision, Inspection and Quarantine, and the State Taxation Administration, for each of our business locations. Additionally, our clean room facilities and the use of reagents is also regulated by local branches of the Ministry of Ecology and Environment. We are in good standing with respect to each of our business operating licenses.

U.S. Government Regulation

The health care industry is one of the most highly regulated industries in the United States. The federal government, individual state and local governments, as well as private accreditation organizations, oversee and monitor the activities of individuals and businesses engaged in the development, manufacture and delivery of health care products and services. Federal laws and regulations seek to protect the health, safety, and welfare of the citizens of the United States, as well as to prevent fraud and abuse associated with the purchase of health care products and services with federal monies. The relevant state and local laws and regulations similarly seek to protect the health, safety, and welfare of the states' citizens and prevent fraud and abuse. Accreditation organizations help to establish and support industry standards and monitor new developments.

HCT/P Regulations

Manufacturing facilities that produce cellular therapies are subject to extensive regulation by the U.S. FDA. In particular, U.S. FDA regulations set forth requirements pertaining to establishments that manufacture human cells, tissues, and cellular and tissue-based products ("HCT/Ps"). Title 21, Code of Federal Regulations, Part 1271 (21 CFR Part 1271) provides for a unified registration and listing system, donor-eligibility, current Good Tissue Practices ("cGTP"), and other requirements that are intended to prevent the introduction, transmission, and spread of communicable diseases by HCT/Ps. While we currently have no plans to conduct these activities within the United States, these regulations may be relevant to us if in the future we become subject to them, or if parallel rules are imposed on our operations in China.

We currently collect, process, store and manufacture HCT/Ps, including manufacturing cellular therapy products. We also collect, process, and store HCT/Ps. Accordingly, we comply with cGTP and cGMP guidelines that apply to biological products. Our management believes that certain other requirements pertaining to biological products, such as requirements pertaining to premarket approval, do not currently apply to us because we are not currently investigating, marketing or selling cellular therapy products in the United States. If we change our business operations in the future, the FDA requirements that apply to us may also change.

Certain state and local governments within the United States also regulate cell-processing facilities by requiring them to obtain other specific licenses. Certain states may also have enacted laws and regulations, or may be considering laws and regulations, regarding the use and marketing of stem cells or cell therapy products, such as those derived from human embryos. While these laws and regulations should not directly affect our business, they could affect our future business. Presently we are not subject to any of these state law requirements, because we do not conduct these regulated activities within the United States.

Pharmaceutical and Biological Products

In the United States, pharmaceutical and biological products, including cellular therapies, are subject to extensive pre- and post-market regulation by the FDA. The Federal Food, Drug, and Cosmetic Act ("FD&C Act"), and other federal and state statutes and regulations, govern, among other things, the research, development, testing, manufacture,

storage, recordkeeping, approval, labeling, promotion and marketing, distribution, post-approval monitoring and reporting, sampling, and import and export of pharmaceutical products. Biological products are approved for marketing under provisions of the Public Health Service Act, or PHS Act. However, because most biological products also meet the definition of “drugs” under the FD&C Act, they are also subject to regulation under FD&C Act provisions. The PHS Act requires the submission of a biologics license application (“BLA”), rather than a New Drug Application ("NDA"), for market authorization. However, the application process and requirements for approval of BLAs are similar to those for NDAs, and biologics are associated with similar approval risks and costs as drugs. Presently we are not subject to any of these requirements, because we do not conduct these regulated activities within the United States. However, these regulations may be relevant to us should we engage in these activities in the United States in the future.

WHERE YOU CAN FIND MORE INFORMATION

You are advised to read this Form 10-K in conjunction with other reports and documents that we file from time to time with the SEC. In particular, please read our Quarterly Reports on Form 10-Q and Current Reports on Form 8-K that we file from time to time. You may obtain copies of these reports directly from us or from the SEC at the SEC's Public Reference Room at 100 F. Street, N.E. Washington, D.C. 20549, and you may obtain information about obtaining access to the Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains information for electronic filers at its website http://www.sec.gov.

ITEM 1A. Risk Factors

RISKS RELATED TO OUR COMPANY

We have a limited operating history and expect significant operating losses for the next few years.

We are a company with a limited operating history and have incurred substantial losses and negative cash flow from operations through the year ended December 31, 2018. Our cash flow from operations may not be consistent from period to period, our biopharmaceutical business has not yet generated substantial revenue, and we may continue to incur losses and negative cash flow in future periods, particularly within the next several years.

Our biopharmaceutical product development programs are based on novel technologies and are inherently risky.

We are subject to the risks of failure inherent in the development of products based on new biomedical technologies. The novel nature of these cell-based therapies creates significant challenges in regard to product development and optimization, manufacturing, government regulation, third party reimbursement, and market acceptance, including the challenges of:

Educating medical personnel regarding the application protocol;

Sourcing clinical and commercial supplies for the materials used to manufacture and process our product candidates;

Developing a consistent and reliable process, while limiting contamination risks regarding the application protocol;

Conditioning patients with chemotherapy in conjunction with delivering immune cell therapy treatment, which may increase the risk of adverse side effects;

Obtaining regulatory approval, as the NMPA, and other regulatory authorities have limited experience with commercial development of cell-based therapies, and therefore the pathway to regulatory approval may be more complex and require more time than we anticipate; and

Establishing sales and marketing capabilities upon obtaining any regulatory approval to gain market acceptance of cell therapy.

These challenges may prevent us from developing and commercializing products on a timely or profitable basis or at all.

We face risks relating to the cell therapy industry, clinical development and commercialization.

Cell therapy is still a developing field and a significant global market for our services has yet to emerge. Our cellular therapy candidates are based on novel cell technologies that are inherently risky and may not be understood or accepted by the marketplace. The current market principally consists of providing manufacturing of cell and tissue-based therapeutic products for clinical trials and processing of stem cell products for therapeutic programs.

The degree of market acceptance of any future product candidates will depend on a number of factors, including:

the clinical safety and effectiveness of the product candidates, the availability of alternative treatments and the perceived advantages of the particular product candidates over alternative treatments;

the relative convenience and ease of administration of the product candidates;

ethical concerns that may arise regarding our commercial use of stem cells, including adult stem cells, in the manufacture of the product candidates;

the frequency and severity of adverse events or other undesirable side effects involving the product candidates or the products or product candidates of others that are cell-based; and

the cost of the products, the reimbursement policies of government and third-party payors and our ability to obtain sufficient third-party coverage or reimbursement.

Laws and the regulatory infrastructure governing cellular biopharmaceuticals in China are relatively new and less established in comparison to the U.S. and other countries; accordingly, regulation may be less stable and predictable than desired, and regulatory changes may disrupt our commercialization process.

In December 2017, the Chinese government issued trial guidelines concerning development and testing of cell therapy products, including stem cell treatments and immune cell therapies such as CAR-T cell therapeutics. These trial guidelines are not mandatory regulation but provide some general principles and basic requirements for cell therapy products in the areas of pharmaceutical research, non-clinical research and clinical research. The cell therapy products provided in the trial guideline refer to the human-sourced living cell products which are used for human disease therapy, whose source, operation and clinical trial process are in line with ethics and whose research and registration application are in line with regulations on pharmaceutical administration. The competent authority of pharmaceutical administration is the NMPA. It is further clarified by the NMPA that the non-registered clinical trial data would be acceptable for drug registration on a case by case basis, pending on the consistency of the samples used for the clinical trial and the drug applied for registration, the generation process of the clinical trial data, whether the data is authentic, complete, accurate and traceable to the source, and the inspection outcome of the NMPA on the clinical trial. Moreover, an applicant of the clinical trial of the said cell therapy products can propose the phases of the clinical trial and the trial plan by itself (generally the trial can be divided into early stage clinical trial phase and confirmatory clinical trial phase), instead of the application of the traditional phases I, II and III of a clinical trial. However, remains unclear if any of our clinical trials will be offered U.S.FDA-like Fast Track designation as maintenance therapy in subjects with advanced cancer who have limited options following surgery and front-line platinum/taxane chemotherapy to improve their progression-free survival. We do not know if our animal studies documentation will be approved to support trials in humans. We also do not know if our cell lines will be accepted by the PRC health authorities. These factors could adversely affect the timing of the clinical trials, the timing of receipt and reporting of clinical data, the timing of Company-sponsored IND filings, and our ability to conduct future planned clinical trials, and any of the above could have a material adverse effect on our business.

NMPA’s regulations may limit our ability to develop, license, manufacture and market our products and services.

Some or all of our operations in China will be subject to oversight and regulation by the NMPA and MOH. Government regulations, among other things, cover the inspection of and controls over testing, manufacturing, safety and environmental considerations, efficacy, labeling, advertising, promotion, record keeping and sale and distribution of pharmaceutical products. Such government regulations may increase our costs and prevent or delay the licensing, manufacturing and marketing of any of our products or services. In the event we seek to license, manufacture, sell or distribute new products or services, we likely will need approvals from certain government agencies such as the future growth and profitability of any operations in China would be contingent on obtaining the requisite approvals. There can be no assurance that we will obtain such approvals.

In 2003, the CFDA implemented new guidelines for the licensing of pharmaceutical products. All existing manufacturers with licenses were required to apply for the Good Manufacturing Practices (“cGMP”) certifications. According to Good Manufacturing Practices for Pharmaceutical Products (revised edition 2010), or the New GMP Rules promulgated by the Ministry of Health of the PRC on January 17, 2011 which became effective on March 1,

2011, all the newly constructed manufacturing facilities of drug manufacture enterprises in China shall comply with the requirements of the New GMP Rules, which are stricter than the original GMP standards.

In addition, delays, product recalls or failures to receive approval may be encountered based upon additional government regulation, legislative changes, administrative action or changes in governmental policy and interpretation applicable to the Chinese pharmaceutical industry. Our pharmaceutical activities also may subject us to government regulations with respect to product prices and other marketing and promotional related activities. Government regulations may substantially increase our costs for developing, licensing, manufacturing and marketing any products or services, which could have a material adverse effect on our business, operating results and financial condition.

The NMPA and other regulatory authorities in China have implemented a series of new punitive and stringent measures regarding the pharmaceuticals industry to redress certain past misconducts in the industry and certain deficiencies in public health reform policies. Given the nature and extent of such new enforcement measures, the aggressive manner in which such enforcement is being conducted and the fact that newly-constituted local level branches are encouraged to issue such punishments and fines, there is the possibility of large scale and significant penalties being levied on manufacturers. These new measures may include fines, restriction and suspension of operations and marketing and other unspecified penalties. This new regulatory environment has added significantly to the risks of our businesses in China and may have a material adverse effect on our business, operating results and financial condition.

Our technology platforms, including our CAR-T, AFP-TCR and TIL, whether preclinical or clinical, are new approaches to cancer treatment that present significant challenges.

We have concentrated our research and development efforts on T cell immunotherapy technology, and our future success in cancer treatment is dependent on the successful development of T cell immunotherapies in general and our CAR technologies and product candidates in particular. Our approach to cancer treatment aims to alter T cells ex vivo through genetic modification using viruses designed to reengineer the T cells to recognize specific proteins on the surface or inside cancer cells. Because this is a new approach to cancer immunotherapy and cancer treatment generally, developing and commercializing our product candidates subjects us to many challenges.

We cannot be sure that our T cell immunotherapy and will yield satisfactory products that are safe and effective, scalable, or profitable. Additionally, because our technology involves the genetic modification of patient cells ex vivo using viral vector, we are subject to many of the challenges and risks that gene therapies face, including regulatory requirements governing gene and cell therapy products have evolved frequently.

Moreover, public perception of therapy safety issues, including adoption of new therapeutics or novel approaches to treatment, may adversely influence the willingness of subjects to participate in clinical trials, or if approved, of physicians to subscribe to the novel treatment mechanics. Physicians, hospitals and third-party payers often are slow to adopt new products, technologies and treatment practices that require additional upfront costs and training. Physicians may not be willing to undergo training to adopt this novel and personalized therapy, may decide the therapy is too complex to adopt without appropriate training and may choose not to administer the therapy. Based on these and other factors, hospitals and payers may decide that the benefits of this new therapy do not or will not outweigh its costs.

Our near term ability to generate significant product revenue is dependent on the success of one or more of our CAR-T, AFP TCR-T, and TIL product candidates, each of which are at an early-stage of development and will require significant additional clinical testing before we can seek regulatory approval and begin commercial sales.

Our near term ability to generate significant product revenue is highly dependent on the proof of concept results of our cell therapy assets, and our ability to obtain regulatory approval of and successfully commercialize these products. All of these products are in the early stages of development, and will require additional pre-clinical and clinical development, regulatory review and approval in each jurisdiction in which we intend to market the products, substantial investment, access to sufficient commercial manufacturing capacity, and significant marketing efforts before we can generate any revenue from product sales. Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must conduct extensive clinical studies to demonstrate the safety, purity, and potency of the product candidates in humans. We cannot be certain that any of our product candidates will be successful in clinical studies and they may not receive regulatory approval even if they are successful in clinical studies.

If our products, once developed, encounter safety or efficacy problems, developmental delays, regulatory issues, or other problems, our development plans and business could be significantly harmed. Further, competitors who are developing products with similar technology may experience problems with their products that could identify problems that would potentially harm our business.

Our CAR-T, AFP TCR-T and TIL product candidates are biologics and the manufacture of our product candidates is complex and we may encounter difficulties in production, particularly with respect to process development or scaling-out of our manufacturing capabilities. If we or any of our third-party manufacturers encounter such difficulties, our ability to provide supply of our product candidates for clinical trials or our products for patients, if approved, could be delayed or stopped, or we may be unable to maintain a commercially viable cost structure.

Our immune cell CAR-T, AFP TCR-T and TIL product candidates are biologics and the process of manufacturing our products is complex, highly- regulated and subject to multiple risks. The manufacture of our product candidates involves complex processes, including harvesting T cells from patients, genetically modifying the T cells ex vivo, multiplying the T cells to obtain the desired dose, and ultimately infusing the T cells back into a patient's body. As a result of the complexities, the cost to manufacture these biologics in general, and our genetically modified cell product candidates in particular, is generally higher than the adipose stem cell, and the manufacturing process is less reliable and is more difficult to reproduce. Our manufacturing process will be susceptible to product loss or failure due to logistical issues associated with the collection of white blood cells, or starting material, from the patient, shipping such material to the manufacturing site, shipping the final product back to the patient, and infusing the patient with the product, manufacturing issues associated with the differences in patient starting materials, interruptions in the manufacturing process, contamination, equipment or reagent failure, improper installation or operation of equipment, vendor or operator error, inconsistency in cell growth, and variability in product characteristics. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects, and other supply disruptions. If for any reason we lose a patient's starting material or later-developed product at any point in the process, the manufacturing process for that patient will need to be restarted and the resulting delay may adversely affect that patient's outcome. If microbial, viral, or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. Because our product candidates are manufactured for each particular patient, we will be required to maintain a chain of identity with respect to materials as they move from the patient to the manufacturing facility, through the manufacturing process, and back to the patient. Maintaining such a chain of identity is difficult and complex, and failure to do so could result in adverse patient outcomes, loss of product, or regulatory action including withdrawal of our products from the market. Further, as product candidates are developed through preclinical to late stage clinical trials towards approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods, are altered along the way in an effort to optimize processes and results. Such changes carry the risk that they will not achieve these intended objectives, and any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials.

Although we continue to develop our own manufacturing facilities to support our clinical and commercial manufacturing activities, we may, in any event, never be successful in establishing our own manufacturing facilities. We have not yet caused our product candidates to be manufactured or processed on a commercial scale and may not be able to do so for any of our product candidates. Although our manufacturing and processing approach is based upon the current approach undertaken by our third-party research institution collaborators, we do not have experience in managing the clinical and commercial manufacturing process, and our process may be more difficult or expensive than the approaches currently in use. We will make changes as we work to optimize the manufacturing process, and we cannot be sure that even minor changes in the process will not result in significantly different CAR-T, AFP TCR-T, TIL or stem cell that may not be as safe and effective as the current products deployed by our third-party research institution collaborators. As a result of these challenges, we may experience delays in our clinical development and/or commercialization plans. The manufacturing risks could delay or prevent the completion of our clinical trials or the approval of any of our product candidates by the FDA, NMPA or other regulatory authorities, result in higher costs or adversely impact commercialization of our product candidates. In addition, we will rely on third parties to perform certain specification tests on our product candidates prior to delivery to patients. If these tests are not appropriately done and test data are not reliable, patients could be put at risk of serious harm and the FDA,

NMPA or other regulatory authorities could require additional clinical trials or place significant restrictions on our company until deficiencies are remedied. We may ultimately be unable to reduce the cost of goods for our product candidates to levels that will allow for an attractive return on investment if and when those product candidates are commercialized.

We rely heavily on third parties to conduct clinical trials on our product candidates.

We presently are party to, and expect that we will be required to enter into, agreements with hospitals and other research partners to perform clinical trials for us and to engage in sales, marketing and distribution efforts for our products and product candidates we may acquire in the future. We may be unable to establish or maintain third-party relationships on a commercially reasonable basis, if at all. In addition, these third parties may have similar or more established relationships with our competitors or other larger customers. Moreover, the loss for any reason of one or more of these key partners could have a significant and adverse impact on our business. If we are unable to obtain or retain third party sales and marketing vendors on commercially acceptable terms, we may not be able to commercialize our therapy products as planned and we may experience delays in or suspension of our marketing launch. Our dependence upon third parties may adversely affect our ability to generate profits or acceptable profit margins and our ability to develop and deliver such products on a timely and competitive basis.

Outside scientists and their third-party research institutions on whom we rely for research and development and early clinical testing of our product candidates may have other commitments or conflicts of interest, which could limit our access to their expertise and harm our ability to leverage our technology platform.

We currently have limited internal research and development capabilities in solid tumors. We therefore rely at present on our third-party research institution collaborators for both capabilities.

The outside scientists who conduct the clinical testing of our current product candidates, and who conduct the research and development upon which our product candidate pipeline depends, are not our employees; rather they serve as either independent contractors or the primary investigators under collaboration that we have with their sponsoring academic or research institution. Such scientists and collaborators may have other commitments that would limit their availability to us. Although our scientific advisors generally agree not to do competing work, if an actual or potential conflict of interest between their work for us and their work for another entity arises, we may lose their services. We are currently evaluating the feasibility of conducting these trials ourselves or commencing the trial in the United States or elsewhere. These factors could adversely affect the timing of the clinical trials, the timing of receipt and reporting of clinical data, the timing of Company-sponsored IND filings, and our ability to conduct future planned clinical trials. It is also possible that some of our valuable proprietary knowledge may become publicly known through these scientific advisors if they breach their confidentiality agreements with us, which would cause competitive harm to, and have a material adverse effect on our business.

If we are unable to maintain our licenses, patents or other intellectual property we could lose important protections that are material to continuing our operations and our future prospects.

We operate in the highly technical field of development of regenerative and immune cellular therapies. In addition to patents, we rely in part on trademark, trade secret and protection to protect our intellectual properties comprised of proprietary know how, technology and processes. However, trade secrets are difficult to protect. We have entered and expect to continue to enter into confidentiality and intellectual property assignment agreements with our employees, consultants, outside scientific collaborators, sponsored researchers, affiliates, other advisors and potential investors. These agreements generally require that the other party keep confidential and not disclose to third parties all confidential information developed by the party or made known to the party by us. These agreements may also provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may be difficult to enforce, or can be breached and may not effectively protect our intellectual property rights.

In addition to contractual measures, we try to protect the confidential nature of our proprietary information by compartmentalize our intellectual properties as well as using other security measures. Such physical and technology

measures may not provide adequate protection for our proprietary information. For example, our security measures may not prevent an employee or consultant with authorized access from misappropriating our trade secrets and providing them to a competitor, and the recourse we have available against such misconduct may be inadequate to adequately protect our interests. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets. Furthermore, others may independently develop our proprietary information in a manner that could prevent legal recourse by us. If any of our confidential or proprietary information, including our trade secrets and know how, were to be disclosed or misappropriated, or if a competitor independently developed any such information, our competitive position could be harmed.

We may be unable to obtain or maintain patent protection for our products and product candidates, which could have a material adverse effect on our business.

Our commercial success will depend, in part, on obtaining and maintaining patent protection for new technologies, product candidates, products and processes and successfully defending such patents against third party challenges. To that end, we file or acquire patent applications, and have been issued patents that are intended to cover certain methods and uses relating to stem cells and cancer immune cell therapies.

The patent positions of biotechnology companies can be highly uncertain and involve complex legal, scientific and factual questions and recent court decisions have introduced significant uncertainty regarding the strength of patents in the industry. Moreover, the legal systems of some countries do not favor the aggressive enforcement of patents and may not protect our intellectual property rights to the same extent as they would, for instance, under the laws of the United States. Any of the issued patents we own or license may be challenged by third parties and held to be invalid, unenforceable or with a narrower or different scope of coverage that what we currently believe, effectively reducing or eliminating protection we believed we had against competitors with similar products or technologies. If we ultimately engage in and lose any such patent disputes, we could be subject to competition and/or significant liabilities, we could be required to enter into third party licenses or we could be required to cease using the disputed technology or product. In addition, even if such licenses are available, the terms of any license requested by a third party could be unacceptable to us.

The claims of any current or future patents that may issue or be licensed to us may not contain claims that are sufficiently broad to prevent others from utilizing the covered technologies and thus may provide us with little commercial protection against competing products. Consequently, our competitors may independently develop competing products that do not infringe our patents or other intellectual property. To the extent a competitor can develop similar products using a different chemistry, our patents and patent applications may not prevent others from directly competing with us. Product development and approval timelines for certain products and therapies in our industry can require a significant amount of time (i.e. many years). As such, it is possible that any patents that may cover an approved product or therapy may have expired at the time of commercialization or only have a short remaining period of exclusivity, thereby reducing the commercial advantages of the patent. In such case, we would then rely solely on other forms of exclusivity which may provide less protection to our competitive position.

Litigation relating to intellectual property is expensive, time consuming and uncertain, and we may be unsuccessful in our efforts to protect against infringement by third parties or defend ourselves against claims of infringement.

To protect our intellectual property, we may initiate litigation or other proceedings. In general, intellectual property litigation is costly, time-consuming, diverts the attention of management and technical personnel and could result in substantial uncertainty regarding our future viability, even if we ultimately prevail. Some of our competitors may be able to sustain the costs of such litigation or other proceedings more effectively than can we because of their substantially greater financial resources. The loss or narrowing of our intellectual property protection, the inability to secure or enforce our intellectual property rights or a finding that we have infringed the intellectual property rights of a third party could limit our ability to develop or market our products and services in the future or adversely affect our revenues. Furthermore, any public announcements related to such litigation or regulatory proceedings could adversely affect the price of our common stock. Third parties may allege that the research, development and commercialization activities we conduct infringe patents or other proprietary rights owned by such parties. This may turn out to be the case even though we have conducted a search and analysis of third-party patent rights and have determined that certain aspects of our research and development and proposed products activities apparently do not infringe on any third-party Chinese patent rights. If we are found to have infringed the patents of a third party, we may be required to pay substantial damages; we also may be required to seek from such party a license, which may not be available on

acceptable terms, if at all, to continue our activities. A judicial finding or infringement or the failure to obtain necessary licenses could prevent us from commercializing our products, which would have a material adverse effect on our business, operating results and financial condition.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on our product candidates in all countries and jurisdictions throughout the world would be impracticable and cost prohibitive, and our intellectual property rights in some countries could be less extensive than those in the People’s Republic of China or the United States, assuming that rights are obtained in these jurisdiction. In addition, the laws of some foreign countries may not protect all of our intellectual properties.

If we are unable to protect the confidentiality of trade secrets, our competitive position could be impaired.

A significant amount of our technology, particularly with respect to our proprietary manufacturing processes, is unpatented and is held in the form of trade secrets. Our efforts to protect these trade secrets are comprised of the use of confidentiality and proprietary information agreement, physically secured documentation, and knowledge segmentation among our staff. Even so, improper use or disclosure of our confidential information could occur and in such cases adequate remedies may be insufficient to protect our competitive position or may not exist. The inadvertent disclosure of our trade secrets could also impair our competitive position.

PRC intellectual property law requires us to compensate our employees for the intellectual property that they may help to develop.

We have entered and expect to continue to enter into confidentiality and intellectual property assignment agreements with most of our employees, consultants, outside scientific collaborators, sponsored researchers, affiliates and other advisors. These agreements generally require that the other party keep confidential and not disclose to third parties all confidential information developed by the party or made known to the party by us. These agreements may also provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may be difficult to enforce, or can be breached and may not effectively protect our intellectual property rights.

The PRC laws codify a “reward/award” policy which entitles employees to certain levels of compensation and bonus from their service invention-creations for which their employers filed for patent protection. In the absence of any contractual understanding, the Implementing Rules of the Patent Law require a minimum compensation and bonus to such employees as below: bonus: (i) for each invention patent, a one-time reward of no less than 3,000 RMB, or (ii) for each utility model or design patent, a one-time reward of no less than 1,000 RMB, and compensation: (i) for each invention patent and utility model, at least 2% of annual operating profits derived from the use of the patent, (ii) for each design patent, at least 0.2% of annual operating profits derived from the use of the design patent, and (iii) at least 10% of royalties received from the licensing the patent to a third party.

Although our bylaws allow for us to issue bonuses to our employees, we have not contractually limited the amount of compensation that we may pay them for filing patents for their ideas, developments, discoveries or inventions. As such, should any of our employees and consultants who have not contractually agreed otherwise seek to enforce these rights, we may be required to pay the statutorily mandated minimum to our employees as required by this law. Our product candidates are still in the clinical trial stage and as of the date of this annual report, we have not derived any revenue from our product-related patents. However, if and when we commercialize our product candidates or therapies, or if we are required to pay our employees any compensation for patents relating to our technical services, such compensation could be substantial and may harm our business prospects, financial condition and results of operations.

Our technologies are at early stages of discovery and development, and we may fail to develop any commercially acceptable or profitable products.

We have yet to develop any therapeutic products that have been approved for marketing, and we do not expect to become profitable within the next several years, but rather expect our biopharmaceutical business to incur additional and increasing operating losses. Before commercializing any therapeutic product in China, we may be required to obtain regulatory approval from the MOH NMPA, local regulatory authorities, and/or individual hospitals, and outside China from equivalent foreign agencies after conducting extensive preclinical studies and clinical trials that demonstrate that the product candidate is safe and effective.

We may elect to delay or discontinue studies or clinical trials based on unfavorable results. Any product developed from, or based on, cell technologies may fail to:

survive and persist in the desired location;

provide the intended therapeutic benefit;

engraft or integrate into existing tissue in the desired manner; or

achieve therapeutic benefits equal to, or better than, the standard of treatment at the time of testing.

In addition, our therapeutic products may cause undesirable side effects. Results of preclinical research in animals may not be indicative of future clinical results in humans.

Ultimately if regulatory authorities do not approve our products or if we fail to maintain regulatory compliance, we would be unable to commercialize our products, and our business and results of operations would be harmed. Even if we do succeed in developing products, we will face many potential obstacles such as the need to develop or obtain manufacturing, marketing and distribution capabilities. Furthermore, because transplantation of cells is a new form of therapy, the marketplace may not accept any products we may develop.

Most potential applications of our technology are pre-commercialization, which subjects us to development and marketing risks.

We are in a relatively early stage on the path to commercialization with many of our products. Successful development and market acceptance of our products is subject to developmental risks, including failure to achieve innovative solutions to problems during development, ineffectiveness, lack of safety, unreliability, failure to receive necessary regulatory clearances or approvals, approval by hospital ethics committees and other governing bodies, high commercial cost, preclusion or obsolescence resulting from third parties' proprietary rights or superior or equivalent products, competition, and general economic conditions affecting purchasing patterns. There is no assurance that we or our partners will successfully develop and commercialize our products, or that our competitors will not develop competing products, treatments or technologies that are less expensive or superior. Failure to successfully develop and market our products would have a substantial negative effect on our results of operations and financial condition.

Market acceptance of new technology such as ours can be difficult to obtain.

New and emerging cell therapy and cell banking technologies may have difficulty or encounter significant delays in obtaining market acceptance in some or all countries around the world due to the novelty of our cell therapy and cell banking technologies. Therefore, the market adoption of our cell therapy and cell banking technologies may be slow and lengthy with no assurances that the technology will be successfully adopted. The lack of market adoption or reduced or minimal market adoption of cell therapy and cell banking technologies may have a significant impact on our ability to successfully sell our future product(s) or therapies within China or in other countries. Our strategy depends in part on the adoption of the therapies we may develop by state-owned hospital systems in China, and the allocation of resources to new technologies and treatment methods is largely dependent upon ethics committees and governing bodies within the hospitals. Even if our clinical trials are successful, there can be no assurance that hospitals in China will adopt our technology and therapies as readily as we may anticipate.

Future clinical trial results may differ significantly from our expectations.

While we have proceeded incrementally with our clinical trials in an effort to gauge the risks of proceeding with larger and more expensive trials, we cannot guarantee that we will not experience negative results with larger and much more expensive clinical trials than we have conducted to date. Poor results in our clinical trials could result in substantial delays in commercialization, substantial negative effects on the perception of our products, and substantial additional costs. These risks are increased by our reliance on third parties in the performance of many of the clinical trial functions, including the clinical investigators, hospitals, and other third party service providers.

If clinical trials of our technology fail to demonstrate safety and efficacy to the satisfaction of the relevant regulatory authorities, including the PRC's National Medicinal Product Administration and the Ministry of Health, or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of such product candidates.

Currently, a regulatory structure has not been established to standardize the approval process for products or therapies based on the technology that exists or that is being developed in our field. Therefore we must conduct, at our own expense, extensive clinical trials to demonstrate the safety and efficacy of the product candidates in humans, and then

archive our results until such time as a new regulatory regime is put in place. If and when this new regulatory regime is adopted it may be easier or more difficult to navigate than CBMG may anticipate, with the following potential barriers:

regulators or institutional review boards may not authorize us or our investigators to commence clinical trials or conduct clinical trials at a prospective trial site;

clinical trials of product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs that we expect to be pursuing;

the number of patients required for clinical trials of product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate, or participants may drop out of these clinical trials at a higher rate than we anticipate;

third party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner or at all;

we might have to suspend or terminate clinical trials of our product candidates for various reasons, including a finding that the participants are being exposed to unacceptable health risks;

regulators or institutional review boards may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements;

the cost of clinical trials of our product candidates may be greater than anticipated;

we may be subject to a more complex regulatory process, since cell-based therapies are relatively new and regulatory agencies have less experience with them as compared to traditional pharmaceutical products;

the supply or quality of our product candidates or other materials necessary to conduct clinical trials of these product candidates may be insufficient or inadequate; and

our product candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators to halt or terminate the trials.

We may be unable to generate interest or meaningful revenue in out-license our Intellectual Property.

The results of preclinical studies may not correlate with the results of human clinical trials. In addition, early stage clinical trial results do not ensure success in later stage clinical trials, and interim trial results are not necessarily predictive of final trial results.

To date, we have not completed the development of any products through regulatory approval. The results of preclinical studies in animals may not be predictive of results in a clinical trial. Likewise, the outcomes of early clinical trials may not be predictive of the success of later clinical trials. New information regarding the safety and efficacy of such product candidates may be less favorable than the data observed to date. AG’s de minimis technical service revenue in the Jilin Hospital should not be relied upon as evidence that later or larger-scale clinical trials will succeed. In addition, even if the trials are successfully completed, we cannot guarantee that the NMPA will interpret the results as we do, and more trials could be required before we submit our product candidates for approval. To the extent that the results of the trials are not satisfactory to the NMPA or other foreign regulatory authorities for support of a marketing application, approval of our product candidates may be significantly delayed, or we may be required to expend significant additional resources, which may not be available to us, to conduct additional trials in support of potential approval of our product candidates.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the study until its conclusion. The enrollment of patients depends on many factors, including:

the patient eligibility criteria defined in the protocol;

the size of the patient population required for analysis of the trial's primary endpoints;

the proximity of patients to study sites;

the design of the trial;

our ability to recruit clinical trial investigators with the appropriate competencies and experience;

our ability to obtain and maintain patient consents; and

the risk that patients enrolled in clinical trials will drop out of the trials before completion.

In addition, our clinical trials may compete with other clinical trials for product candidates that are in the same therapeutic areas as our product candidates, and this competition may reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials in such clinical trial site. Moreover, because our product candidates represent a departure from more commonly used methods for cancer treatment, potential patients and their doctors may be inclined to use conventional therapies, such as chemotherapy and or traditional Chinese medicine, rather than enroll patients in any future clinical trial.

Upon commencing clinical trials, delays in patient enrollment may result in increased costs or may affect the timing or outcome of the planned clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of our product candidates.

We are exposed to general liability, non-clinical and clinical liability risks which could place a substantial financial burden upon us, should lawsuits be filed against us.

Our business exposes us to potential liability risks that are inherent in the testing, manufacturing and marketing of our therapies and product candidates. We expect that such claims are likely to be asserted against us at some point. In addition, the use in our clinical trials of our therapies and products and the subsequent sale of these therapies or product candidates by us or our potential collaborators may cause us to bear a portion of or all product liability risks. We currently have insurance coverage relating to inventory, property plant and equipment and office premises. The Company also purchased in insurance covering personal injury, medical expenses and several clinical trials. However, any claim under such insurance policies may be subject to certain exceptions, and may not be honored fully, in part, in a timely manner, or at all, and may not cover the full extent of liability we may actually face. Therefore, a successful liability claim or series of claims brought against us could have a material adverse effect on our business, financial condition and results of operations.

We currently have no CAR-T, TCR-T, TIL or KOA product marketing and sales organization and have no experience in marketing such products. If we are unable to establish product marketing and sales capabilities or enter into agreements with third parties to market and sell our product candidates, we may generate less product revenue than expected.

We currently have no CAR-T, TCR-T, TIL or KOA product sales, marketing or distribution capabilities and have no experience in marketing products. We intend to develop an in-house product marketing organization and sales force, which will require significant capital expenditures, management resources and time. We will have to compete with other pharmaceutical and biotechnology companies to recruit, hire, train and retain marketing and sales personnel.

If we are unable or decide not to establish internal sales, marketing and distribution capabilities, we will pursue collaborative arrangements regarding the sales and marketing of our products, however, there can be no assurance that we will be able to establish or maintain such collaborative arrangements, or if we are able to do so, that they will have effective sales forces. Any revenue we receive will depend upon the efforts of such third parties, which may not be successful. We may have little or no control over the marketing and sales efforts of such third parties and our revenue from product sales may be lower than if we had commercialized our product candidates ourselves. We also face competition in our search for third parties to assist us with the sales and marketing efforts of our product candidates. There can be no assurance that we will be able to develop in-house sales and distribution capabilities or establish or maintain relationships with third-party collaborators to commercialize any product in China or overseas.

Coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, which could make it difficult for us to sell our product candidates profitably.

Successful sales of our product candidates, if approved, depend on the availability of adequate coverage and reimbursement from third-party payers. In addition, because our product candidates represent new approaches to the treatment of cancer, we cannot accurately estimate the potential revenue from our product candidates.

Patients who are provided medical treatment for their conditions generally rely on third-party payers to reimburse all or part of the costs associated with their treatment. Adequate coverage and reimbursement from governmental healthcare programs and commercial payers is critical to new product acceptance. In China, government authorities decide which drugs and treatments they will cover and the amount of reimbursement. Obtaining coverage and reimbursement approval of a product from a government or other third-party payer is a time-consuming and costly process that could require us to provide to the payer supporting scientific, clinical and cost-effectiveness data for the use of our products. Even if we obtain coverage for a given product, the resulting reimbursement payment rates might not be adequate for us to achieve or sustain profitability or may require co-payments that patients find unacceptably high. Patients are unlikely to use our product candidates unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our product candidates. If we obtain approval in one or more jurisdictions outside of China for our product candidates, we will be subject to rules and regulations in those jurisdictions. In some foreign countries, particularly those in the EU, the pricing of biologics is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after obtaining marketing approval of a product candidate. In addition, market acceptance and sales of our product candidates will depend significantly on the availability of adequate coverage and reimbursement from third-party payers for our product candidates and may be affected by existing and future health care reform measures. The continuing efforts of the government, insurance companies, managed care organizations and other payers of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

the demand for our product candidates, if we obtain regulatory approval;

our ability to set a price that we believe is fair for our products;

our ability to generate revenue and achieve or maintain profitability;

the level of taxes that we are required to pay; and

the availability of capital.

Any reduction in reimbursement from any government programs may result in a similar reduction in payments from private payers, which may adversely affect our future profitability.

Our product candidates may cause undesirable side effects or have other properties that could interrupt our clinical development, prevent or delay regulatory approval, and limit our commercial value or result in significant negative consequences.

Undesirable or unacceptable side effects caused by our product candidates could cause us or regulatory authorities to delay, suspend or stop clinical trials and could result in the delay or denial of regulatory approval by the regulatory authorities. Results of our trials could reveal unacceptable severe adverse effects or unexpected characteristics.

There have been reported patient deaths in immune cell therapies as a result of factors comprised of cytokine release syndrome and neurotoxicity. Immune Cell therapy treatment-related adverse side effects could also affect patient recruitment or the ability of enrolled subjects to complete the trial or result in potential liability claims. In addition, these side effects may not be recognized or properly managed by the treating medical staff, as medical personnel do not normally encounter in the general patient population toxicities resulting from personalized immune cell therapy. We plan to conduct training for the medical personnel using immune cell therapy to understand the adverse side effect profile for our clinical trials and upon any commercialization of any immune cell product candidates. Inability of the medical personnel in recognizing or managing immune cell therapy’s potential adverse side effects could result in

patient deaths. Any of these occurrences may harm our business, financial condition and prospects significantly.

Our manufacturing facilities are subject to extensive government regulation, and existing or future regulations may adversely affect our current or future operations, increase our costs of operations, or require us to make additional capital expenditures.

Environmental advocacy groups and regulatory agencies in China have been focusing considerable attention on the industries' potential role in climate change. Stringent government safety, environmental and bio-hazardous materials disposal regulations at the city, provincial, and local level may have substantial impact on our business and our third-party service providers. A number of complex laws, rules, orders, and interpretations govern environmental protection, health, safety, land use, zoning, transportation, and related matters. The adoption of laws and regulations to implement controls of bio-hazardous material disposal and environmental compliance, including the imposition of fees or taxes, could adversely affect the operations with which we do business. Among other things, timeliness in navigating the compliance of these regulations may restrict our operations, our third-party service providers' operations and adversely affect our financial condition, results of operations, and cash flows by imposing conditions including, but not limited to new permits requirement, limitations or bans on disposal or transportation of certain bio-hazardous materials or certain categories of materials. We have started the environmental assessment and permit application process for our new Zhenjiang facility, which is required to be in place prior to the approval of production permit. We have terminated our Beijing facility lease.

Technological and medical developments or improvements in conventional therapies could render the use of cell therapy and our services and planned products obsolete.

Advances in other treatment methods or in disease prevention techniques could significantly reduce or entirely eliminate the need for our cell therapy services, planned products and therapeutic efforts. There is no assurance that cell therapies will achieve the degree of success envisioned by us in the treatment of disease. Nor is there any assurance that new technological improvements or techniques will not render obsolete the processes currently used by us, the need for our services or our planned products. Additionally, technological or medical developments may materially alter the commercial viability of our technology or services, and require us to incur significant costs to replace or modify equipment in which we have a substantial investment. We are focused on novel cell therapies, and if this field is substantially unsuccessful, this could jeopardize our success or future results. The occurrence of any of these factors may have a material adverse effect on our business, operating results and financial condition.

We face significant competition from other Chinese biotechnology and pharmaceutical companies, and our operating results will suffer if we fail to compete effectively.

There is intense competition and rapid innovation in the Chinese cell therapy industry, and in the cancer immunotherapy space in particular. Our competitors may be able to develop other herbal medicine, compounds or drugs that are able to achieve similar or better results. Our potential competitors are comprised of traditional Chinese medicine companies, major multinational pharmaceutical companies, established and new biotechnology companies, specialty pharmaceutical companies, state-owned enterprises, universities and other research institutions. Many of our competitors have substantially greater scientific, financial, technical and other resources, such as larger research and development staff and experienced marketing and manufacturing organizations and well-established sales forces. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies or are well funded by venture capitals. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors, either alone or with collaborative partners, may succeed in developing, acquiring or licensing on an exclusive basis drug or biologic products that are more effective, safer, more easily commercialized or less costly than our product candidates or may develop proprietary technologies or secure patent protection that we may need for the development of our technologies and products. We believe the key competitive factors that will affect the development and commercial success of our product candidates are efficacy, safety, tolerability, reliability, and convenience of use, price and reimbursement.

Even if we obtain regulatory approval of our product candidates, the availability and price of our competitors' products could limit the demand and the price we are able to charge for our product candidates. We may not be able to implement our business plan if the acceptance of our product candidates is inhibited by price competition or the reluctance of doctors to switch from existing methods of treatment to our product candidates, or if doctors switch to other new drug or biologic products or choose to reserve our product candidates for use in limited circumstances.

We may be unable to attract or retain key employees for our business if our share-based or other compensation programs cease to be viewed as competitive and valuable benefits.

To be competitive, we must attract, retain, and motivate executives and other key employees. Hiring and retaining qualified executives, scientists, technical staff, and professional staff are critical to our business, and competition for experienced employees can be intense. To help attract, retain, and motivate key employees, we use share-based and other performance-based incentive awards such as stock options, restricted stock units (RSUs) and cash bonuses. If our share-based or other compensation programs cease to be viewed as competitive and valuable benefits, our ability

to attract, retain, and motivate key employees could be weakened, which could harm our results of operations.

There is a scarcity of experienced professionals in the field of cell therapy and we may not be able to retain key officers or employees or hire new key officers or employees needed to implement our business strategy and develop our products. If we are unable to retain or hire key officers or employees, we may be unable to grow our biopharmaceutical business or implement our business strategy, and the Company may be materially and adversely affected.

Given the specialized nature of cell therapy and the fact that it is a young field, there is an inherent scarcity of experienced personnel in the field. The Company is substantially dependent on the skills and efforts of current senior management, , for their management, operations and the implementation of their business strategy. As a result of the difficulty in locating qualified new management, the loss or incapacity of existing members of management or unavailability of qualified management or as replacements for management who resign or are terminated could adversely affect the Company's operations. The future success of the Company also depends upon our ability to attract and retain additional qualified personnel (including medical, scientific, technical, commercial, business and administrative personnel) necessary to support our anticipated growth, develop our business, perform our contractual obligations to third parties and maintain appropriate licensure, on acceptable terms. There can be no assurance that we will be successful in attracting or retaining personnel required by us to continue to grow our operations. The loss of a key employee, the failure of a key employee to perform in his or her current position or our inability to attract and retain skilled employees, as needed, could result in our inability to grow our biopharmaceutical business or implement our business strategy, or may have a material adverse effect on our business, financial condition and operating results.

We may fail to successfully integrate our acquired businesses, operations and assets in the expected time frame, which may adversely affect the combined company's future results.

We believe that our immune oncology acquisitions will result in certain benefits, including certain manufacturing, sales and distribution and operational efficiencies. However, to realize these anticipated benefits, our existing business and the acquired technologies must be successfully combined. We may be unable to effectively integrate the acquired technologies into our organization, make the acquired technologies profitable, and may not succeed in managing the acquired technologies. The process of integration of an acquired technologies may subject us to a number of risks, including:

Failure to successfully manage relationships with hospitals, patients and suppliers;

Demands on management related to the increase in complexity of the company after the acquisition;

Diversion of management and scientists' attention;

Potential difficulties integrating and harmonizing large scale multi-site clinical trials;

Difficulties in the assimilation and retention of employees;

Exposure to legal claims for activities of the acquired technologies; and

Incurrence of additional expenses in connection with the integration process.

If the acquired technologies is not successfully integrated into our company, our business, financial condition and results of operations could be materially adversely affected, as well as our professional reputation. Furthermore, if we are unable to successfully integrate the acquired technologies, or if there are delays in implementing clinical trials using the acquired technologies, the anticipated benefits of the acquisition may not be realized fully or at all or may

take longer to realize than expected. Successful integration of the acquired technologies will depend on our ability to manage large scale cancer clinical trials and to realize opportunities in monetizing these technologies.

We will need to grow the size of our organization, and we may experience difficulties in managing this growth.

As our development and commercialization plans and strategies develop, and as we continue to expand operation as a public company, we expect to grow our personnel needs in the managerial, operational, sales, marketing, financial and other departments. Future growth would impose significant added responsibilities on members of management, including:

identifying, recruiting, integrating, maintaining and motivating additional employees;

managing our internal development efforts effectively, including the clinical trials and NMPA review process for our product candidates, while complying with our contractual obligations to contractors and other third parties; and

improving our operational, financial and management controls, reporting systems and procedures.

Our future financial performance and our ability to commercialize our product candidates will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

We currently rely, and for the foreseeable future will continue to rely, in substantial part on certain independent organizations such as contract research organizations and hospitals to provide certain services comprised of regulatory approval and clinical management. There can be no assurance that the services of independent organizations will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by the independent organizations is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval of our product candidates or otherwise advance our business. If we are not able to effectively expand our organization by hiring new employees, we may not be able to successfully implement the tasks necessary to further develop and commercialize our product candidates and, accordingly, may not achieve our research, development and commercialization goals.

We may form or seek strategic alliances or enter into licensing arrangements in the future, and we may not realize the benefits of such alliances or licensing arrangements.

We may form or seek strategic alliances, create joint ventures or collaborations or enter into licensing arrangements with third parties, including but not limited to our collaboration with Novartis, that we believe will complement or augment our development and commercialization efforts with respect to our product candidates and any future product candidates that we may develop. Any of these relationships may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business. In addition, we face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for our product candidates because they may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view our product candidates as having the requisite potential to demonstrate safety and efficacy. If we license products or businesses, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture. We cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction. Any delays in entering into new strategic partnership agreements related to our product candidates could delay the development and commercialization of our product candidates in certain geographies for certain indications, which would harm our business prospects, financial condition and results of operations.

Among other challenges in connection with our strategic alliances and licensing transactions, our partnership with Novartis may not be successful or profitable. We may face unfavorable regulatory, technical or market developments. While our manufacturing capabilities on CAR-T products set us apart from many of our competitors, we have yet to commercialize any of our drug candidates and have yet to generate any revenue from the sale of our products, and there is no assurance that we will be able to generate revenue or net profit from our production of Kymriah® for Novartis. There is no assurance that we can successfully transfer Kymriah® to our manufacturing facility and receive regulatory approval to commence commercial production. We cannot be assured that after a drug candidate is eventually made available for sale that it will gain market acceptance from physicians, patients, third-party payers and others in the medical community. Market acceptance after the drug approval may cause us not be able to generate sufficient revenue to recuperate our investment in the partnership. Any unfavorable developments before or after Kymriah® is commercialized in China may have a material adverse effect on our business. Any unfavorable regulatory, technical or market development could render the partnership with Novartis untenable.

We, our strategic partners and our customers conduct business in a heavily regulated industry. If we or one or more of our strategic partners or customers fail to comply with applicable current and future laws and government regulations, our business and financial results could be adversely affected.

The healthcare industry is one of the most highly regulated industries. Federal governments, individual state and local governments and private accreditation organizations may oversee and monitor all the activities of individuals and businesses engaged in the delivery of health care products and services. Therefore, current laws, rules and regulations could directly or indirectly negatively affect our ability and the ability of our strategic partners and customers to operate each of their businesses.

In addition, as we expand into other parts of the world, we will need to comply with the applicable laws and regulations in such foreign jurisdictions. We have not yet thoroughly explored the requirements or feasibility of such compliance. It is possible that we may not be permitted to expand our business into one or more foreign jurisdictions.

Although we intend to conduct our business in compliance with applicable laws and regulations, the laws and regulations affecting our business and relationships are complex, and many aspects of such relationships have not been the subject of judicial or regulatory interpretation. Furthermore, the cell therapy industry is the topic of significant government interest, and thus the laws and regulations applicable to us and our strategic partners and customers and to their business are subject to frequent change and/or reinterpretation and there can be no assurance that the laws and regulations applicable to us and our strategic partners and customers will not be amended or interpreted in a manner that adversely affects our business, financial condition, or operating results.

We anticipate that we will need substantial additional financing in the future to continue our operations; if we are unable to raise additional capital, as and when needed, or on acceptable terms, we may be forced to delay, reduce or eliminate one or more of our product or therapy development programs, cell therapy initiatives or commercialization efforts and our business will be harmed.

Our current operating plan will require significant levels of additional capital to fund, among other things, the continued development of our cell therapy product or therapy candidates and the operation, and expansion of our manufacturing operations to our clinical development activities.

We plan to continue to launch several new Immune Oncology clinical trials and continue to advance our KOA clinical trials in China. We also plan to conduct solid tumor clinical trials in the United States. If these trials are successful, we will require significant additional investment capital over a multi-year period in order to conduct subsequent phases, gain approval for these therapies by the NMPA and FDA, and to commercialize these therapies. Subsequent phases may be larger and more expensive than the initial trials. In order to raise the necessary capital, we will need to raise additional money in the capital markets, enter into collaboration agreements with third parties or undertake some combination of these strategies. If we are unsuccessful in these efforts, we may have no choice but to delay or abandon the trials.

The amount and timing of our future capital requirements also will likely depend on many other factors, including:

the scope, progress, results, costs, timing and outcomes of our other cell therapy product or therapy candidates;

our ability to enter into, or continue, any collaboration agreements with third parties for our product or therapy candidates and the timing and terms of any such agreements;

the timing of and the costs involved in obtaining regulatory approvals for our product or therapy candidates, a process which could be particularly lengthy or complex given the lack of precedent for cell therapy products in China; and

the costs of maintaining, expanding and protecting our intellectual property portfolio, including potential litigation costs and liabilities.

To fund clinical studies and support our future operations, we would likely seek to raise capital through a variety of different public and/or private financings vehicles. This could include, but not be limited to, the use of loans or issuances of debt or equity securities in public or private financings. If we raise capital through the sale of equity, or securities convertible into equity, it would result in dilution to our then existing stockholders. Servicing the interest and principal repayment obligations under debt facilities could divert funds that would otherwise be available to support clinical or commercialization activities. In certain cases, we also may seek funding through collaborative arrangements, that would likely require us to relinquish certain rights to our technology or product or therapy candidates and share in the future revenues associated with the partnered product or therapy.

Ultimately, we may be unable to raise capital or enter into collaborative relationships on terms that are acceptable to us, if at all. Our inability to obtain necessary capital or financing to fund our future operating needs could adversely affect our business, results of operations and financial condition.

The agreements governing the loan facilities we currently have contain restrictions and limitations that could significantly affect our ability to operate our business, raise capital, as well as significantly affect our liquidity, and therefore could adversely affect our results of operations.

Under the Credit Agreement with the Merchants Bank, SH SBM has the obligation to notify the Merchants Bank prior to certain corporate actions and assist the bank in taking measures to ensure repayment of the loans provided under the Credit Agreement upon occurrence of such events. Such corporation actions include: (i) major financial losses and assets losses, (ii) loans to or guarantees for third parties or mortgages on its properties, (iii) revocation or cancellation of business license or applications for bankruptcy, (iv) major operational or financial crises of its controlling shareholder or other related entities that affect its business operations, (v) related party transactions that involve 10% or more of SH SBM's net assets and (vi) legal proceeding that have material adverse effects on its operations or financial condition. Pursuant to the Credit Agreement, SH SBM cannot enter into a merger, an acquisition or a joint venture, transfer its equity interest or consummate a reorganization or share ownership restructuring without prior written consent of the Merchants Bank. The Credit Agreement also contains a covenant requiring that SH SBM maintain or improve its existing operations and preserve or increase the value of its existing assets.

The foregoing provisions restrict, among other aspects, SH SBM's ability to:

incur or permit to exist any additional indebtedness or liens;

guarantee or otherwise become liable with respect to the obligations of another party or entity;

acquire any assets or enter into merger or joint venture transactions; and

consummate certain related party transactions.

Our ability to comply with these provisions may be affected by events beyond our control. A failure to comply with any of such provisions will constitute an event of default under the Credit Agreement, upon which the Merchant Bank will have the right to take a number of remedial actions that could adversely affect our liquidity and results of operations. See " - Defaults under our loan agreements with the Merchants Bank could result in a substantial loss of our assets."

Defaults under our loan agreements with the Merchants Bank could result in a substantial loss of our assets.

We have pledged $17 million of cash as collateral under the loan agreements with the Merchants Bank. A failure to repay any of the indebtedness under our agreements with the Merchants Bank as it becomes due or to otherwise comply with the covenants contained therein could result in an event of default thereunder. In addition, a default under any other loan agreement of SH SBM that is not cured within three months of such default will be deemed an event of default under the loan agreements with the Merchants Bank. If not cured or waived, an event of default under any of loan agreements with the Merchant Bank could enable the lender to declare all borrowings outstanding on such debt, together with accrued and unpaid interest and fees, to be due and payable and terminate all commitments to extend further credit. The lender could also elect to foreclose on our assets securing such debt. In such an event, we may not be able to refinance or repay our indebtedness, pay dividends or have sufficient liquidity to meet operating and capital expenditure requirements. Any such acceleration could cause us to lose a substantial portion of our assets and will substantially adversely affect our ability to continue our operations.

Failure to achieve and maintain effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act could have a material adverse effect on our business and operating results.

It may be time consuming, difficult and costly for us to develop and implement the additional internal controls, processes and reporting procedures required by the Sarbanes-Oxley Act. We may need to hire additional financial reporting, internal auditing and other finance staff in order to develop and implement appropriate additional internal controls, processes and reporting procedures.

If we fail to comply in a timely manner with the requirements of Section 404 of the Sarbanes-Oxley Act regarding internal controls over financial reporting or to remedy any material weaknesses in our internal controls that we may identify, such failure could result in material misstatements in our financial statements, cause investors to lose confidence in our reported financial information and have a negative effect on the trading price of our common stock.

In connection with our on-going assessment of the effectiveness of our internal control over financial reporting, we may discover “material weaknesses” in our internal controls as defined in standards established by the Public Company Accounting Oversight Board (“PCAOB”). A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected. The PCAOB defines “significant deficiency” as a deficiency that results in more than a remote likelihood that a misstatement of the financial statements that is more than inconsequential will not be prevented or detected.

During the year ended December 31, 2015, we made improvements in our internal control and have remediated the deficiencies identified in 2014. In the event that future material weaknesses are identified, we will attempt to employ qualified personnel and adopt and implement policies and procedures to address any material weaknesses we identify. However, the process of designing and implementing effective internal controls is a continuous effort that requires us to anticipate and react to changes in our business and the economic and regulatory environments and to expend significant resources to maintain a system of internal controls that is adequate to satisfy our reporting obligations as a public company.

Any failure to complete our assessment of our internal control over financial reporting, to remediate any material weaknesses that we may identify or to implement new or improved controls, or difficulties encountered in their implementation, could harm our operating results, cause us to fail to meet our reporting obligations or result in material misstatements in our financial statements. Any such failure could also adversely affect the results of the periodic management evaluations of our internal controls and, in the case of a failure to remediate any material weaknesses that we may identify, would adversely affect the annual management reports regarding the effectiveness

of our internal control over financial reporting that are required under Section 404 of the Sarbanes-Oxley Act. Inadequate internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock.

The Company's revenue may become subject to tightened regulation that may affect the Company's financial condition.

Currently we are not generating any meaningful revenue, which revenue is currently primarily comprised of technical services relating to the preparation of subset T Cell and clonality assay platform technology for treatment of cancers. Nonetheless our revenue may be subject to the risk of progressive regulatory actions by the PRC government. From time to time there may also be adverse publicity relating to the practice of cell therapy treatments in China, which due to the sensitive and experimental nature of the treatment, may trigger further governmental scrutiny. Any progressive regulatory action in China arising out of such scrutiny may adversely affect the Company's financial condition or cash flows.

Litigation and other proceedings relating to intellectual property is expensive, time consuming and uncertain, and we may be unsuccessful in our efforts to protect against infringement by third parties or defend ourselves against claims of infringement or otherwise.

To protect our intellectual property, we may initiate litigation or other proceedings. Third parties may also initiate proceedings to challenge our intellectual property rights. For instance, in April 2018, a company based in Hangzhou, China, submitted a petition with the PRC Trademark Office to challenge our Rejoin™ trademark on the basis of a lack of use. Upon such petition, the PRC Trademark Office has issued a notice, requesting us to provide evidence of use by August 30, 2018. We collected evidence in response to such notice and timely submitted a response to refute the claim. In December 2018, the State Trademark Office accepted our response and overruled the Hangzhou company's application for revoking Rejoin™. The Hangzhou company is entitled to appeal to the State Trademark Review and Adjudication Board within fifteen (15) days after receiving the above decision. Although we are dedicated to protecting our intellectual property in such proceedings and believe that we have resources to do so, there is no assurance that we will succeed or defend such notice in each of these matters. The loss or narrowing of our intellectual property protection, the inability to secure or enforce our intellectual property rights or a finding that we have infringed the intellectual property rights of a third party could limit our ability to develop or market our products and services in the future or adversely affect our revenues. In addition, intellectual property litigation and other adverse proceedings are costly and time-consuming in general, divert the attention of management and technical personnel and could result in substantial uncertainty regarding our future viability, even if we ultimately prevail. Furthermore, any public announcements related to such litigation or regulatory proceedings could adversely affect the price of our common stock.

Third parties may allege that the research, development and commercialization activities we conduct infringe patents or other proprietary rights owned by such parties. This may turn out to be the case even though we have conducted a search and analysis of third-party intellectual property rights and have determined that certain aspects of our research and development and proposed products activities apparently do not infringe on any third-party Chinese intellectual property rights. If we are found to have infringed the intellectual property of a third party, we may be required to pay substantial damages; we also may be required to seek from such party a license, which may not be available on acceptable terms, if at all, to continue our activities. A judicial finding or infringement or the failure to obtain necessary licenses could prevent us from commercializing our products, which would have a material adverse effect on our business, operating results and financial condition.

RISKS RELATED TO OUR STRUCTURE

Our operations are subject to risks associated with emerging markets.

The Chinese economy is not well established and is only recently emerging and growing as a significant market for consumer goods and services. Accordingly, there is no assurance that the market will continue to grow. Perceived risks associated with investing in China, or a general disruption in the development of China's markets could materially and adversely affect the business, operating results and financial condition of the Company.

A substantial portion of our assets are currently located in the PRC, and investors may not be able to enforce federal securities laws or their other legal rights.

A substantial portion of our assets are located in the PRC. As a result, it may be difficult for investors in the U.S. to enforce their legal rights, to effect service of process upon certain of our directors or officers or to enforce judgments of U.S. courts predicated upon civil liabilities and criminal penalties against any of our directors and officers located outside of the U.S.

The PRC government has the ability to exercise significant influence and control over our operations in China.

In recent years, the PRC government has implemented measures for economic reform, the reduction of state ownership of productive assets and the establishment of corporate governance practices in business enterprises. However, many productive assets in China are still owned by the PRC government. In addition, the government continues to play a significant role in regulating industrial development by imposing business regulations. It also exercises significant control over the country's economic growth through the allocation of resources, controlling payment of foreign currency-denominated obligations, setting monetary policy and providing preferential treatment to particular industries or companies.

There can be no assurance that China's economic, political or legal systems will not develop in a way that becomes detrimental to our business, results of operations and financial condition. Our activities may be materially and adversely affected by changes in China's economic and social conditions and by changes in the policies of the government, such as measures to control inflation, changes in the rates or method of taxation and the imposition of additional restrictions on currency conversion.

Additional factors that we may experience in connection with having operations in China that may adversely affect our business and results of operations include:

our inability to enforce or obtain a remedy under any material agreements;

PRC restrictions on foreign investment that could impair our ability to conduct our business or acquire or contract with other entities in the future;

restrictions on currency exchange that may limit our ability to use cash flow most effectively or to repatriate our investment;

fluctuations in currency values;

cultural, language and managerial differences that may reduce our overall performance; and

political instability in China.

Cultural, language and managerial differences may adversely affect our overall performance.

We have experienced difficulties in assimilating cultural, language and managerial differences with our subsidiaries in China. Personnel issues have developed in consolidating management teams from different cultural backgrounds. In addition, language translation issues from time to time have caused miscommunications. These factors make the management of our operations in China more difficult. Difficulties in coordinating the efforts of our U.S.-based management team with our China-based management team may cause our business, operating results and financial condition to be materially and adversely affected.

We may not be able to enforce our rights in China given certain features of its legal and judicial system.

China's legal and judicial system may negatively impact foreign investors. The legal system in China is evolving rapidly, and enforcement of laws is inconsistent. It may be impossible to obtain swift and equitable enforcement of laws or enforcement of the judgment of one court by a court of another jurisdiction. China's legal system is based on civil law or written statutes and a decision by one judge does not set a legal precedent that must be followed by judges in other cases. In addition, the interpretation of Chinese laws may vary to reflect domestic political changes.

Since a significant portion of our operations are presently based in China, service of process on our business and officers may be difficult to effect within the United States. Also, some of our assets are located outside the United States and any judgment obtained in the United States against us may not be enforceable outside the United States.

There are substantial uncertainties regarding the interpretation and application to our business of PRC laws and regulations, since many of the rules and regulations that companies face in China are not made public. The effectiveness of newly enacted laws, regulations or amendments may be delayed, resulting in detrimental reliance by foreign investors. New laws and regulations that apply to future businesses may be applied retroactively to existing businesses. We cannot predict what effect the interpretations of existing or new PRC laws or regulations may have on our business.

Our operations in China are subject to government regulation that limit or prohibit direct foreign investment, which may limit our ability to control operations based in China.

The PRC government has imposed regulations in various industries, including medical research and the stem cell industry, that limit foreign investors' equity ownership or prohibit foreign investments altogether in companies that operate in such industries. We are currently structured as a U.S. corporation (Delaware) with subsidiaries and controlled entities in China. As a result of these regulations and the manner in which they may be applied or enforced, our ability to control our existing operations based in China may be limited or restricted.

If the relevant Chinese authorities find us or any business combination to be in violation of any laws or regulations, they would have broad discretion in dealing with such violation, including, without limitation: (i) levying fines; (ii) revoking our business and other licenses; (iii) requiring that we restructure our ownership or operations; and (iv) requiring that we discontinue any portion or all of our business.

We may suffer losses if we cannot utilize our assets in China.

The Company's Shanghai and Wuxi laboratory facilities were originally intended for stem cell research and development, but has been equipped to provide comprehensive cell manufacturing, collection, processing and storage capabilities to provide cells for clinical trials. If the Company does not determine to renew the lease due to limitations on its utility under the new regulatory initiatives in China or otherwise, the Company may incur certain expenses in connection with returning the premises to the landlord. Management believes it will be able to renew all leases

without difficulty.

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Restrictions on currency exchange may limit our ability to utilize our cash flow effectively.

Our interests in China will be subject to China's rules and regulations on currency conversion. In particular, the initial capitalization and operating expenses of the VIE (CBMG Shanghai) are funded by our WFOE, Cellular Biomedicine Group Ltd. (Wuxi). In China, the State Administration for Foreign Exchange (the "SAFE"), regulates the conversion of the Chinese Renminbi into foreign currencies and the conversion of foreign currencies into Chinese Renminbi. Foreign investment enterprises are allowed to open currency accounts including a "basic account" and "capital account." However, conversion of currency in the "capital account," including capital items such as direct investments, loans, and securities, require approval of the SAFE even though according to the Notice of the State Administration of Foreign Exchange on Reforming the Administration of the Settlement of Foreign Exchange Capital of Foreign-invested Enterprise promulgated on April 8, 2015, or the SAFE Notice 19, and Notice of the State Administration of Foreign Exchange on Reforming and Regulating the Policies for the Administration of Settlement of Foreign Exchange under Capital Accounts promulgated on June 9, 2016, or the SAFE Notice 16, foreign-invested enterprises are able to settle foreign exchange capital at their discretion, Chinese banks restricts foreign currency conversion for fear of "hot money" going into China and may continue to limit our ability to channel funds to the VIE entities for their operation. There can be no assurance that the PRC regulatory authorities will not impose further restrictions on the convertibility of the Chinese currency. Future restrictions on currency exchanges may limit our ability to use our cash flow for the distribution of dividends to our stockholders or to fund operations we may have outside of China, which could materially adversely affect our business and operating results.

Fluctuations in the value of the Renminbi relative to the U.S. dollar could affect our operating results.

We prepare our financial statements in U.S. dollars, while our underlying businesses operate in two currencies, U.S. dollars and Chinese Renminbi. It is anticipated that our Chinese operations will conduct their operations primarily in Renminbi and our U.S. operations will conduct their operations in dollars. At the present time, we do not expect to have significant cross currency transactions that will be at risk to foreign currency exchange rates. Nevertheless, the conversion of financial information using a functional currency of Renminbi will be subject to risks related to foreign currency exchange rate fluctuations. The value of Renminbi against the U.S. dollar and other currencies may fluctuate and is affected by, among other things, changes in China's political and economic conditions and supply and demand in local markets. As we have significant operations in China, and will rely principally on revenues earned in China, any significant revaluation of the Renminbi could materially and adversely affect our financial results. For example, to the extent that we need to convert U.S. dollars we receive from an offering of our securities into Renminbi for our operations, appreciation of the Renminbi against the U.S. dollar could have a material adverse effect on our business, financial condition and results of operations.

Some of the laws and regulations governing our business in China are vague and subject to risks of interpretation.

Some of the PRC laws and regulations governing our business operations in China are vague and their official interpretation and enforcement may involve substantial uncertainty. These include, but are not limited to, laws and regulations governing our business and the enforcement and performance of our contractual arrangements in the event of the imposition of statutory liens, death, bankruptcy and criminal proceedings. Despite their uncertainty, we will be required to comply.

New laws and regulations that affect existing and proposed businesses may be applied retroactively. Accordingly, the effectiveness of newly enacted laws, regulations or amendments may not be clear. We cannot predict what effect the interpretation of existing or new PRC laws or regulations may have on our business.

The PRC government does not permit direct foreign investment in stem cell research and development businesses. Accordingly, we operate these businesses through local companies with which we have contractual relationships but

in which we do not have direct equity ownership.

PRC regulations prevent foreign companies from directly engaging in stem cell-related research, development and commercial applications in China. Therefore, to perform these activities, we conduct much of our biopharmaceutical business operations in China through a domestic variable interest entity, or VIE, a Chinese domestic company controlled by the Chinese employees of the Company. Our contractual arrangements may not be as effective in providing control over these entities as direct ownership. For example, the VIE could fail to take actions required for our business or fail to conduct business in the manner we desire despite their contractual obligation to do so. These companies are able to transact business with parties not affiliated with us. If these companies fail to perform under their agreements with us, we may have to rely on legal remedies under PRC law, which may not be effective. In addition, we cannot be certain that the individual equity owners of the VIE would always act in our best interests, especially if they have no other relationship with us.

Although other foreign companies have used VIE structures similar to ours and such arrangements are not uncommon in connection with business operations of foreign companies in China in industry sectors in which foreign direct investments are limited or prohibited, recently there has been greater scrutiny by the business community of the VIE structure and, additionally, the application of a VIE structure to control companies in a sector in which foreign direct investment is specifically prohibited carries increased risks.

In addition, the Ministry of Commerce ("MOFCOM"), promulgated the Rules of Ministry of Commerce on Implementation of Security Review System of Mergers and Acquisitions of Domestic Enterprises by Foreign Investors in August 2011, or the MOFCOM Security Review Rules, to implement the Notice of the General Office of the State Council on Establishing the Security Review System for Mergers and Acquisitions of Domestic Enterprises by Foreign Investors promulgated on February 3, 2011, or Circular No. 6. The MOFCOM Security Review Rules came into effect on September 1, 2011 and replaced the Interim Provisions of the Ministry of Commerce on Matters Relating to the Implementation of the Security Review System for Mergers and Acquisitions of Domestic Enterprises by Foreign Investors promulgated by MOFCOM in March 2011. According to these circulars and rules, a security review is required for mergers and acquisitions by foreign investors having "national defense and security" concerns and mergers and acquisitions by which foreign investors may acquire the "de facto control" of domestic enterprises having "national security" concerns. In addition, when deciding whether a specific merger or acquisition of a domestic enterprise by foreign investors is subject to the security review, the MOFCOM will look into the substance and actual impact of the transaction. The MOFCOM Security Review Rules further prohibit foreign investors from bypassing the security review requirement by structuring transactions through proxies, trusts, indirect investments, leases, loans, control through contractual arrangements or offshore transactions. There is no explicit provision or official interpretation stating that our business falls into the scope subject to the security review, and there is no requirement for foreign investors in those mergers and acquisitions transactions already completed prior to the promulgation of Circular No. 6 to submit such transactions to MOFCOM for security review. The enactment of the MOFCOM National Security Review Rules specifically prohibits circumvention of the rules through VIE arrangement in the area of foreign investment in business of national security concern. Although we believe that our business, judging from its scale, should not cause any concern for national security review at its current state, there is no assurance that MOFCOM would not apply the same concept of anti-circumvention in the future to foreign investment in prohibited areas through VIE structure, the same way that our investment in China was structured.

Our relationship with our controlled VIE entity, CBMG Shanghai, through the VIE agreements, is subject to various operational and legal risks.

Management believes the holders of the VIE's registered capital, Messrs. Chen Mingzhe and Lu Junfeng, have no interest in acting contrary to the VIE agreements. However, if Messrs. Chen or Lu as shareholders of the VIE entity were to reduce or eliminate their ownership of the registered capital of the VIE entity, their interests may diverge from that of CBMG and they may seek to act in a manner contrary to the VIE agreements (for example by controlling the VIE entity in such a way that is inconsistent with the directives of CBMG management and the board; or causing non-payment by the VIE entity of services fees). If such circumstances were to occur the WFOE would have to assert control rights through the powers of attorney, pledges and other VIE agreements, which would require legal action through the PRC judicial system. We believe based on the advice of local counsel that the VIE agreements are valid and in compliance with PRC laws presently in effect. However, there is a risk that the enforcement of these agreements may involve more extensive procedures and costs to enforce, in comparison to direct equity ownership of the VIE entity. Notwithstanding the foregoing, if the applicable PRC laws were to change or are interpreted by authorities in the future in a manner which challenges or renders the VIE agreements ineffective, the WFOE's ability to control and obtain all benefits (economic or otherwise) of ownership of the VIE entity could be impaired or eliminated. In the event of such future changes or new interpretations of PRC law, in an effort to substantially preserve our rights, we may have to either amend our VIE agreements or enter into alternative arrangements which comply with PRC laws as interpreted and then in effect.

Failure to comply with the U.S. Foreign Corrupt Practices Act could subject us to penalties and other adverse consequences.

We are subject to the U.S. Foreign Corrupt Practices Act, which generally prohibits U.S. companies from engaging in bribery or other prohibited payments to foreign officials for the purpose of obtaining or retaining business. Foreign companies, including some that may compete with us, are not subject to these prohibitions. Corruption, extortion, bribery, pay-offs, theft and other fraudulent practices occur from time-to-time in the PRC. There can be no assurance, however, that our employees or other agents will not engage in such conduct for which we might be held responsible. If our employees or other agents are found to have engaged in such practices, we could suffer severe penalties and other consequences that may have a material adverse effect on our business, financial condition and results of operations.

If we make share compensation grants to persons who are PRC citizens, they may be required to register with SAFE. We may also face regulatory uncertainties that could restrict our ability to adopt share compensation plans for our directors and employees and other parties under PRC laws.

On April 6, 2007, SAFE issued the “Operating Procedures for Administration of Domestic Individuals Participating in the Employee Stock Ownership Plan or Stock Option Plan of An Overseas Listed Company, also known as Circular 78. On February 15, 2012, SAFE promulgated the Circular on Relevant Issues Concerning Foreign Exchange Administration for Domestic Individuals Participating in an Employees Share Incentive Plan of an Overseas-Listed Company, often known as Circular 7. Circular 7 has superseded Circular 78. Under Circular 7, PRC resident individuals who participate in a share incentive plan of an overseas listed company are required to register with SAFE and complete certain other procedures. All such participants need to retain a PRC agent through PRC subsidiary to handle issues like foreign exchange registration, account opening, funds transfer and remittance. Circular 7 further requires that an offshore agent should also be designated to handle matters in connection with the exercise or sale of share awards and proceeds transferring for the share incentive plan participants. We have obtained the SAFE approvals under Circular 7 for one PRC subsidiary. If we or our PRC employees who have been granted stock options fail to comply with these regulations, we or our PRC employees who have been granted stock options may be subject to fines and legal sanctions and will be unable to grant share compensation to our PRC employees. In that case, our ability to compensate our employees and directors through share compensation would be hindered and our business operations may be adversely affected.

The labor contract law and its implementation regulations may increase our operating expenses and may materially and adversely affect our business, financial condition and results of operations.

Substantial uncertainty of the PRC Labor Contract Law, or Labor Contract Law, and the Implementation Regulation for the PRC Labor Contract Law, or Implementation Regulation, remains as to their potential impact on our business, financial condition and results of operations. The implementation of the Labor Contract Law and the Implementation Regulation may increase our operating expenses, in particular our human resources costs and our administrative expenses. In addition, as the interpretation and implementation of these regulations are still evolving, we cannot assure you that our employment practices will at all times be deemed to be in full compliance with the law. In the event that we decide to significantly modify our employment or labor policy or practice, or reduce the number of our sales professionals, the Labor Contract Law and the Implementation Regulation may limit our ability to effectuate the modifications or changes in the manner that we believe to be most cost-efficient or otherwise desirable, which could materially and adversely affect our business, financial condition and results of operations. If we are subject to severe penalties or incur significant liabilities in connection with labor disputes or investigations, our business and results of operations may be adversely affected.

If relations between the United States and China worsen, our stock price may decrease and we may have difficulty accessing the U.S. capital markets.

At various times during recent years, the United States and China have had disagreements over trade, economic and other policy issues. Controversies may arise in the future between these two countries. Any political or trade controversies between the United States and China could adversely affect the market price of our common stock and our and our clients' ability to access U.S. capital markets.

PRC regulations of loans to PRC entities and direct investment in PRC entities by offshore holding companies may delay or prevent us from using the proceeds of this offering to make loans or additional capital contributions to our PRC subsidiary.

We may transfer funds to our PRC subsidiary or finance our PRC subsidiary by means of shareholder loans or capital contributions. Any loans from us to our PRC subsidiary, which is a foreign-invested enterprise, is subject to a quota based on the statutory formulas and there are two alternative applicable quotas: the difference between the registered capital and total investment of the PRC subsidiary; certain times of the net asset value of PRC subsidiary (currently up to twice of the net assets value), and shall be registered with the State Administration of Foreign Exchange, or SAFE, or its local counterparts. Any capital contributions we make to our PRC subsidiary shall be approved by or registered with (as the case may be) the Ministry of Commerce or its local counterparts. We may not be able to obtain these government registrations or approvals on a timely basis, if at all. If we fail to receive such registrations or approvals, our ability to provide loans or capital contributions to our PRC subsidiary in a timely manner may be negatively affected, which could materially and adversely affect our liquidity and our ability to fund and expand our business.

In addition, registered capital of a foreign-invested company settled in RMB converted from foreign currencies may only be used within the business scope approved by the applicable governmental authority. Foreign-invested companies may not change how they use such capital without SAFE's approval, and may not in any case use such capital to repay RMB loans if proceeds of such loans have not been utilized. Violations of these regulations may result in severe penalties. These regulations may significantly limit our ability to transfer the net proceeds from offshore offering and subsequent offerings or financings to our PRC subsidiary, which may adversely affect our liquidity and our ability to fund and expand our business in China.

We may be subject to penalties, including restriction on our ability to inject capital into our PRC subsidiary and our PRC subsidiary's ability to distribute profits to us, if our PRC resident shareholders beneficial owners fail to comply with relevant PRC foreign exchange rules.

The Notice on Relevant Issues Concerning Foreign Exchange Administration for PRC Residents to Engage in Financing and Inbound Investment via Offshore Special Purpose Vehicles, often known as Circular 75, was issued by SAFE in 2005. Circular 75 requires PRC residents to register with the local SAFE branch in connection with their establishment or control of any offshore special purpose vehicle for the purpose of overseas equity financing involving a roundtrip investment whereby the offshore special purpose vehicle acquires or controls onshore assets or equity interests held by the PRC residents. On July 4, 2014, SAFE issued the Notice on Relevant Issues Concerning Foreign Exchange Administration for PRC Residents to Engage in Outbound Investment and Financing and Inbound Investment via Special Purpose Vehicles, or Circular 37, which has superseded Circular 75. Under Circular 37 and other relevant foreign exchange regulations, PRC residents who make, or have made, prior to the implementation of these foreign exchange regulations, direct or indirect investments in offshore companies are required to register those investments with SAFE. In addition, any PRC resident who is a direct or indirect shareholder of an offshore company is also required to file or update the registration with SAFE, with respect to that offshore company for any material change involving its round-trip investment, capital variation, such as an increase or decrease in capital, transfer or swap of shares, merger, division, long-term equity or debt investment or the creation of any security interest. If any PRC shareholder fails to make the required registration or update the registration, the PRC subsidiary of that offshore company may be prohibited from distributing its profits and the proceeds from any reduction in capital, share transfer or liquidation to that offshore company, and that offshore company may also be prohibited from injecting additional capital into its PRC subsidiary. Moreover, failure to comply with the foreign exchange registration requirements described above could result in liability under PRC laws for evasion of applicable foreign exchange restrictions.

We cannot provide any assurance that all of our shareholders and beneficial owners who are PRC residents have fully complied or will obtain or update any applicable registrations or have fully complied or will fully comply with other requirements required by Circular 37 or other related rules in a timely manner. The failure or inability of our shareholders resident in China to comply with the registration requirements set forth therein may subject them to fines and legal sanctions and may also limit our ability to contribute additional capital into our PRC subsidiaries, limit our PRC subsidiaries' ability to distribute profits and other proceeds to our company or otherwise adversely affect our business.

We and/or our Hong Kong subsidiary may be classified as a "PRC resident enterprise" for PRC enterprise income tax purposes. Such classification would likely result in unfavorable tax consequences to us and our non-PRC shareholders and have a material adverse effect on our results of operations and the value of your investment.

The Enterprise Income Tax Law provides that an enterprise established outside China whose "de facto management body" is located in China is considered a "PRC resident enterprise" and will generally be subject to the uniform 25% enterprise income tax on its global income. Under the implementation rules of the Enterprise Income Tax Law, "de facto management body" is defined as the organizational body which effectively manages and controls the production and business operation, personnel, accounting, properties and other aspects of operations of an enterprise."

Pursuant to the Notice Regarding the Determination of Chinese-Controlled Offshore Incorporated Enterprises as PRC Tax Resident Enterprises on the Basis of De Facto Management Bodies, issued by the State Administration of Taxation in 2009, a foreign enterprise controlled by PRC enterprises or PRC enterprise groups is considered a PRC resident enterprise if all of the following conditions are met: (i) the senior management and core management departments in charge of daily operations are located mainly within the PRC; (ii) financial and human resources decisions are subject to determination or approval by persons or bodies in the PRC; (iii) major assets, accounting books, company seals and minutes and files of board and shareholders' meetings are located or kept within the PRC; and (iv) at least half of the enterprise's directors with voting rights or senior management reside within the PRC. Although the notice states that these standards only apply to offshore enterprises that are controlled by PRC enterprises or PRC enterprise groups, such standards may reflect the general view of the State Administration of Taxation in determining the tax residence of foreign enterprises.

We believe that neither our company nor our Hong Kong subsidiary is a PRC resident enterprise because neither our company nor our Hong Kong subsidiary meets all of the conditions enumerated. For example, board and shareholders' resolutions of our company and our Hong Kong subsidiary are adopted in Hong Kong and the minutes and related files are kept in Hong Kong. However, if the PRC tax authorities were to disagree with our position, our company and/or our Hong Kong subsidiary may be subject to PRC enterprise income tax reporting obligations and to a 25% enterprise income tax on our global taxable income, except for our income from dividends received from our PRC subsidiary, which may be exempt from PRC tax. If we and/or our Hong Kong subsidiary are treated as a PRC resident enterprise, the 25% enterprise income tax may adversely affect our ability to satisfy any of our cash needs.

In addition, if we were to be classified as a PRC "resident enterprise" for PRC enterprise income tax purpose, dividends we pay to our non-PRC enterprise shareholders and gains derived by our non-PRC shareholders from the sale of our shares and ADSs may be become subject to a 10% PRC withholding tax. In addition, future guidance may extend the withholding tax to dividends we pay to our non-PRC individual shareholders and gains derived by such shareholders from transferring our shares and ADSs. In addition to the uncertainty in how the new "resident enterprise" classification could apply, it is also possible that the rules may change in the future, possibly with retroactive effect. If PRC income tax were imposed on gains realized through the transfer of our ADSs or ordinary shares or on dividends paid to our non-resident shareholders, the value of your investment in our ADSs or ordinary shares may be materially and adversely affected.

Any limitation on the ability of our PRC subsidiary to make payments to us, or the tax implications of making payments to us, could have a material adverse effect on our ability to conduct our business or our financial condition.

We are a holding company, and we rely principally on dividends and other distributions from our PRC subsidiary for our cash needs, including the funds necessary to pay dividends to our shareholders or service any debt we may incur. Current PRC regulations permit our PRC subsidiary to pay dividends only out of its accumulated profits, if any, determined in accordance with PRC accounting standards and regulations. In addition, our PRC subsidiary is required to set aside at least 10% of its after tax profits each year, if any, to fund certain statutory reserve funds until the aggregate amount of such reserve funds reaches 50% of its registered capital. Apart from these reserves, our PRC subsidiary may allocate a discretionary portion of its after-tax profits to staff welfare and bonus funds at its discretion. These reserves and funds are not distributable as cash dividends. Furthermore, if our PRC subsidiary incurs debt, the debt instruments may restrict its ability to pay dividends or make other payments to us. We cannot assure you that our PRC subsidiary will generate sufficient earnings and cash flows in the near future to pay dividends or otherwise distribute sufficient funds to enable us to meet our obligations, pay interest and expenses or declare dividends.

Distributions made by PRC companies to their offshore parents are generally subject to a 10% withholding tax under the Enterprise Income Tax Law. Pursuant to the Enterprise Income Tax Law and the Arrangement between the Mainland of China and the Hong Kong Special Administrative Region for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income, the withholding tax rate on dividends paid by our PRC subsidiary to our Hong Kong subsidiary would generally be reduced to 5%, provided that our Hong Kong subsidiary is the beneficial owner of the PRC sourced income. Our PRC subsidiary has not obtained approval for a withholding tax rate of 5% from the local tax authority and does not plan to obtain such approval in the near future as we have not achieved profitability. However, the Notice on How to Understand and Determine the Beneficial Owners in a Tax Agreement, also known as Circular 601, promulgated by the State Administration of Taxation in 2009, provides guidance for determining whether a resident of a contracting state is the "beneficial owner" of an item of income under China's tax treaties and similar arrangements. According to Circular 601, a beneficial owner generally must be engaged in substantive business activities. An agent or conduit company will not be regarded as a beneficial owner and, therefore, will not qualify for treaty benefits. For this purpose, a conduit company is a company that is set up for the purpose of avoiding or reducing taxes or transferring or accumulating profits. Although our PRC subsidiary is wholly owned by our Hong Kong subsidiary, we will not be able to enjoy the 5% withholding tax rate with respect to

any dividends or distributions made by our PRC subsidiary to its parent company in Hong Kong if our Hong Kong subsidiary is regarded as a “conduit company.”

In addition, if CBMG HK were deemed to be a PRC resident enterprise, then any dividends payable by CBMG HK to CBMG Delaware Corporation may become subject to PRC dividend withholding tax.

A new China taxation rule about the “beneficial owner” in a tax agreement became effective on April 1, 2018 which superseded Circular 601 and could affect the determination of whether a resident of a contracting state is the “beneficial owner” of an item of income under China’s tax treaties and similar arrangements.

Restrictions on the remittance of RMB into and out of China and governmental control of currency conversion may limit our ability to pay dividends and other obligations, and affect the value of your investment.

The PRC government imposes controls on the convertibility of the RMB into foreign currencies and the remittance of currency out of China. We receive substantially all of our revenues in RMB and substantially all of our cash inflows and outflows are denominated in RMB. Under our current corporate structure, our revenues are primarily derived from dividend payments from our subsidiary in China after it receives payments from the VIE under various service and other contractual arrangements. We may convert a portion of our revenues into other currencies to meet our foreign currency obligations, such as payments of dividends declared in respect of our ordinary shares, if any. Shortages in the availability of foreign currency may restrict the ability of our PRC subsidiary to remit sufficient foreign currency to pay dividends or other payments to us, or otherwise satisfy its foreign currency denominated obligations.

Under existing PRC foreign exchange regulations, payments of current account items, including profit distributions, interest payments and trade and service-related foreign exchange transactions, can be made in foreign currencies without prior SAFE approval as long as certain routine procedural requirements are fulfilled. Therefore, our PRC subsidiary is allowed to pay dividends in foreign currencies to us without prior SAFE approval by following certain routine procedural requirements. However, approval from or registration with competent government authorities is required where the RMB is to be converted into foreign currency and remitted out of China to pay capital expenses such as the repayment of loans denominated in foreign currencies. The PRC government may at its discretion restrict access to foreign currencies for current account transactions in the future. If the foreign exchange control system prevents us from obtaining sufficient foreign currencies to satisfy our foreign currency demands, we may not be able to pay dividends in foreign currencies to our shareholders, including the U.S. shareholders.

Our financial condition and results of operations could be materially and adversely affected if recent value added tax reforms in the PRC become unfavorable to our PRC subsidiary or VIE.

In 2012, China introduced a value added tax, or VAT, to replace the previous 5% business tax. Our PRC subsidiary and the VIE have been subject to VAT at a base rate of 6% since September 1, 2012. The VIE's subsidiary has been subject to VAT at a base rate of 6% since July 1, 2013. Our financial condition and results of operations could be materially and adversely affected if the interpretation and enforcement of these tax rules become materially unfavorable to our PRC subsidiary and VIE.

Failure to comply with PRC regulations regarding the registration requirements for stock ownership plans or stock option plans may subject PRC plan participants or us to fines and other legal or administrative sanctions.

Under SAFE regulations, PRC residents who participate in an employee stock ownership plan or stock option plan in an overseas publicly listed company are required to register with SAFE or its local branch and complete certain other procedures. Participants of a stock incentive plan who are PRC residents must retain a qualified PRC agent, which could be a PRC subsidiary of such overseas publicly listed company, to conduct the SAFE registration and other procedures with respect to the stock incentive plan on behalf of these participants. Such participants must also retain an overseas entrusted institution to handle matters in connection with their exercise or sale of stock options. In addition, the PRC agent is required to amend the SAFE registration with respect to the stock incentive plan if there is any material change to the stock incentive plan, the PRC agent or the overseas entrusted institution or other material changes.

We and our PRC resident employees who participate in our share incentive plans are subject to these regulations as our company is publicly listed in the United States. We have obtained the SAFE approvals regarding our PRC resident employees participating in our share incentive plans. If we or any our PRC resident option grantees fail to follow the compliance with above regulations, we or our PRC resident option grantees may be subject to fines and other legal or

administrative sanctions.

Fluctuation in the value of the RMB may have a material adverse effect on the value of the investment.

The value of the RMB against the U.S. dollar and other currencies is affected by changes in China's political and economic conditions and China's foreign exchange policies, among other things. On July 21, 2005, the PRC government changed its decades-old policy of pegging the value of the RMB to the U.S. dollar, and the RMB appreciated more than 20% against the U.S. dollar over the following three years. Between July 2008 and June 2010, this appreciation halted and the exchange rate between the RMB and the U.S. dollar remained within a narrow band. The PRC government has allowed the RMB to appreciate slowly against the U.S. dollar again, and it has appreciated more than 10% since June 2010. It is difficult to predict how market forces or PRC or U.S. government policy may impact the exchange rate between the RMB and the U.S. dollar in the future. In addition, there remains significant international pressure on the PRC government to adopt a substantial liberalization of its currency policy, which could result in further appreciation in the value of the RMB against the U.S. dollar. In 2015, due to the slow-down of China economic growth rate and environment, RMB depreciated against the U.S. dollar from third quarter.

Our revenues and costs are mostly denominated in RMB, and a significant portion of our financial assets are also denominated in RMB, whereas our reporting currency is the U.S. dollar. Any significant depreciation of the RMB may materially and adversely affect our revenues, earnings and financial position as reported in U.S. dollars. To the extent that we need to convert U.S. dollars we received from this offering into RMB for our operations, appreciation of the RMB against the U.S. dollar would have an adverse effect on the RMB amount we would receive from the conversion. Conversely, if we decide to convert our RMB into U.S. dollars for the purpose of making payments for dividends on our ordinary shares or for other business purposes, appreciation of the U.S. dollar against the RMB would have a negative effect on the U.S. dollar amount available to us.

PRC laws and regulations establish more complex procedures for some acquisitions of Chinese companies by foreign investors, which could make it more difficult for us to pursue growth through acquisitions in China.

A number of PRC laws and regulations, including the Regulations on Mergers and Acquisitions of Domestic Enterprises by Foreign Investors adopted by six PRC regulatory agencies in 2006, or the M&A Rules, the Anti-monopoly Law, and the Rules of Ministry of Commerce on Implementation of Security Review System of Mergers and Acquisitions of Domestic Enterprises by Foreign Investors promulgated by the Ministry of Commerce in August 2011, or the Security Review Rules, have established procedures and requirements that are expected to make merger and acquisition activities in China by foreign investors more time consuming and complex. These include requirements in some instances that the Ministry of Commerce be notified in advance of any change of control transaction in which a foreign investor takes control of a PRC domestic enterprise, or that the approval from the Ministry of Commerce be obtained in circumstances where overseas companies established or controlled by PRC enterprises or residents acquire affiliated domestic companies. PRC laws and regulations also require certain merger and acquisition transactions to be subject to merger control review or security review.

The Security Review Rules were formulated to implement the Notice of the General Office of the State Council on Establishing the Security Review System for Mergers and Acquisitions of Domestic Enterprises by Foreign Investors, also known as Circular 6, which was promulgated in 2011. Under these rules, a security review is required for mergers and acquisitions by foreign investors having “national defense and security” concerns and mergers and acquisitions by which foreign investors may acquire the “de facto control” of domestic enterprises have “national security” concerns. In addition, when deciding whether a specific merger or acquisition of a domestic enterprise by foreign investors is subject to the security review, the Ministry of Commerce will look into the substance and actual impact of the transaction. The Security Review Rules further prohibits foreign investors from bypassing the security review requirement by structuring transactions through proxies, trusts, indirect investments, leases, loans, control through contractual arrangements or offshore transactions.

There is no requirement for foreign investors in those mergers and acquisitions transactions already completed prior to the promulgation of Circular 6 to submit such transactions to the Ministry of Commerce for security review. As we have already obtained the “de facto control” over our affiliated PRC entities prior to the effectiveness of these rules, we do not believe we are required to submit our existing contractual arrangements to the Ministry of Commerce for security review.

However, as these rules are relatively new and there is a lack of clear statutory interpretation on the implementation of the same, there is no assurance that the Ministry of Commerce will not apply these national security review-related rules to the acquisition of equity interest in our PRC subsidiary. If we are found to be in violation of the Security Review Rules and other PRC laws and regulations with respect to the merger and acquisition activities in China, or fail to obtain any of the required approvals, the relevant regulatory authorities would have broad discretion in dealing with such violation, including levying fines, confiscating our income, revoking our PRC subsidiary’s business or operating licenses, requiring us to restructure or unwind the relevant ownership structure or operations. Any of these actions could cause significant disruption to our business operations and may materially and adversely affect our

business, financial condition and results of operations. Further, if the business of any target company that we plan to acquire falls into the ambit of security review, we may not be able to successfully acquire such company either by equity or asset acquisition, capital contribution or through any contractual arrangement. We may grow our business in part by acquiring other companies operating in our industry. Complying with the requirements of the relevant regulations to complete such transactions could be time consuming, and any required approval processes, including approval from the Ministry of Commerce, may delay or inhibit our ability to complete such transactions, which could affect our ability to expand our business or maintain our market share.

On July 30, 2017, MOFCOM issued the Interim Measures on Filing Administration of Establishment and Changes of Foreign-Invested Enterprises (2017 Revision) which came into force as of July 30, 2017. It is stipulated in the Interim Measures that the transformation of a non-foreign invested enterprise into a foreign invested enterprise through M&A, merger by absorption, foreign investor’s strategic investment into non-foreign invested listed company, etc. would no longer be subject to MOFCOM approval, but instead would only need to undergo the simplified filing procedures with MOFCOM, in case the business of the target enterprise does not fall into the foreign investment negative list. But, if any business of the target enterprise falls into the foreign investment negative list, the complex procedures for an acquisition of the target enterprise by foreign investors would be still applicable.

The heightened scrutiny over acquisition transactions by the PRC tax authorities may have a negative impact on our business operations, our acquisition or restructuring strategy or the value of your investment in us.

Pursuant to the Notice on Strengthening Administration of Enterprise Income Tax for Share Transfers by Non-PRC Resident Enterprises, or Circular 698, issued by the State Administration of Taxation in December 2009 with retroactive effect from January 1, 2008, where a non-PRC resident enterprise transfers the equity interests of a PRC resident enterprise indirectly by disposition of the equity interests of an overseas non-public holding company, or an Indirect Transfer, and such overseas holding company is located in a tax jurisdiction that: (i) has an effective tax rate of less than 12.5% or (ii) does not impose income tax on foreign income of its residents, the non-PRC resident enterprise, being the transferor, must report to the competent tax authority of the PRC resident enterprise this Indirect Transfer and may be subject to PRC enterprise income tax of up to 10% of the gains derived from the Indirect Transfer in certain circumstances.

To clarify the issues related to Circular 698, the State Administration of Taxation released the Announcement of the State Administration of Taxation on Several Issues Relating to the Administration of Income Tax on Non-resident Enterprises in 2011, known as Notice 24, and the Announcement on Issues Related to Applications of Special Tax Treatment for Equity Transfer by Non-resident Enterprises in 2013.

On February 3, 2015, the State Administration of Taxation issued the Announcement on Several Issues Concerning the Enterprise Income Tax on Indirect Property Transfers by Non-PRC Resident Enterprises, or Notice 7. Notice 7 introduces a new tax regime that is significantly different from that under Circular 698. It superseded the previous tax rules in relation to the offshore indirect equity transfer, including those under Circular 698 as described above. It extends the tax jurisdiction of State Administration of Taxation to capture not only the Indirect Transfer but also the transactions involving indirect transfer of (i) real properties in China and (ii) assets of an “establishment or place” situated in China, by a non-PRC resident enterprise through a disposition of equity interests in an overseas holding company.

However, Notice 7 also brings uncertainties to the parties of the offshore indirect transfers as the transferee and the transferor have to make self-assessment on whether the transactions should be subject to the corporate income tax and file or withhold the corporate income tax accordingly. In addition, the PRC tax authorities have discretion under Notice 7 to adjust the taxable capital gains based on the difference between the fair value of the transferred equity interests and the investment cost. We may pursue acquisitions in the future that may involve complex corporate structures. If we are considered as a non-PRC resident enterprise under the EIT Law and if the PRC tax authorities make adjustments to the taxable income of the transactions under Notice 7, our income tax expenses associated with such potential acquisitions will be increased, which may have an adverse effect on our financial condition and results of operations.

We face certain risks relating to the real properties that we lease.

We primarily lease office and manufacturing space from third parties for our operations in China. Any defects in lessors’ title to the leased properties may disrupt our use of our offices, which may in turn adversely affect our business operations. For example, certain buildings and the underlying land are not allowed to be used for industrial or commercial purposes without relevant authorities’ approval, and the lease of such buildings to companies like us may subject the lessor to pay premium fees to the PRC government. We cannot assure you that the lessor has obtained all or any of approvals from the relevant governmental authorities. In addition, some of our lessors have not provided us with documentation evidencing their title to the relevant leased properties. We cannot assure you that title to these properties we currently lease will not be challenged. In addition, we have not registered any of our lease agreements with relevant PRC governmental authorities as required by PRC law, and although failure to do so does not in itself invalidate the leases, we may not be able to defend these leases against bona fide third parties.

As of the date of this filing, we are not aware of any actions, claims or investigations being contemplated by government authorities with respect to the defects in our leased real properties or any challenges by third parties to our use of these properties. However, if third parties who purport to be property owners or beneficiaries of the mortgaged properties challenge our right to use the leased properties, we may not be able to protect our leasehold interest and may be ordered to vacate the affected premises, which could in turn materially and adversely affect our business and operating results.

Our auditor, like other independent registered public accounting firms operating in China, is not permitted to be subject to inspection by Public Company Accounting Oversight Board, and consequently investors may be deprived of the benefits of such inspection.

Our auditor, the independent registered public accounting firm that issued the audit reports included elsewhere in this report, as an auditor of companies that are traded publicly in the United States and a firm registered with the Public Company Accounting Oversight Board (United States), or PCAOB, is required by the laws of the United States to undergo regular inspections by the PCAOB to assess its compliance with the laws of the United States and applicable professional standards. Our auditor is located in China and the PCAOB is currently unable to conduct inspections on auditors in China without the approval of the PRC authorities. Therefore, our auditor, like other independent registered public accounting firms operating in China, is currently not inspected by the PCAOB.

In May 2013, the PCAOB announced that it has entered into a Memorandum of Understanding ("MOU") on Enforcement Cooperation with the China Securities Regulatory Commission (the "CSRC") and the Ministry of Finance (the "MOF"). The MOU establishes a cooperative framework between the parties for the production and exchange of audit documents relevant to investigations in both countries' respective jurisdictions. More specifically, it provides a mechanism for the parties to request and receive from each other assistance in obtaining documents and information in furtherance of their investigative duties. In addition to developing enforcement MOU, the PCAOB has been engaged in continuing discussions with the CSRC and MOF to permit joint inspections in China of audit firms that are registered with the PCAOB and audit Chinese companies that trade on U.S. exchanges.

Inspections of other firms that the PCAOB has conducted outside of China have identified deficiencies in those firms' audit procedures and quality control procedures, and such deficiencies may be addressed as part of the inspection process to improve future audit quality. The inability of the PCAOB to conduct inspections of independent registered public accounting firms operating in China makes it more difficult to evaluate the effectiveness of our auditor's audit procedures or quality control procedures, and to the extent that such inspections might have facilitated improvements in our auditor's audit procedures and quality control procedures, investors may be deprived of such benefits.

On November 18, 2016, the PCAOB issued its 2016 to 2020 Strategic Plan on improving the quality of the audit for the protection and benefits of investors, which revised the plan to update initiatives relating to the PCAOB's new standard-setting process, planning for and adopting a permanent broker-dealer inspection program, inspecting firms located in China, audit quality indicators, monitoring and developing reports related to independence and the business model of the firms, and business continuity. This may eventually improve PCAOB's ability to conduct inspections of independent registered public accounting firms operating in China.

On December 7, 2018, the SEC and PCAOB issued a joint "Statement on the Vital role of Audit Quality and Regulatory Access to Audit and Other Information Internationally—Discussion of Current Information Access Challenges with Respect to U.S.-listed Companies with Significant Operations in China". The statement discussed challenges with respect to inspection of PCAOB-registered auditing firms in China. (https://www.sec.gov/news/public-statement/statement-vital-role-audit-quality-and-regulatory-access-audit-and-other). Efforts with Chinese regulators to improve information access and audit inspections are ongoing and not yet made satisfactory progress.

RISKS RELATED TO OUR COMMON STOCK

If we fail to meet all applicable Nasdaq Global Market requirements and Nasdaq determines to delist our common stock, the delisting could adversely affect the market liquidity of our common stock, impair the value of your investment, adversely affect our ability to raise needed funds and subject us to additional trading restrictions and regulations.

Our common stock trades on the Nasdaq Global Market. If we fail to satisfy the continued listing requirements of The Nasdaq Global Market, such as the corporate governance requirements or the minimum closing bid price requirement, The Nasdaq Stock Market (or Nasdaq) may take steps to de-list our common stock. Such a de-listing would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a de-listing, we would take actions to restore our compliance with Nasdaq's listing requirements, but we can provide no assurance that any such action taken by us would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the Nasdaq minimum bid price requirement or prevent future non-compliance with Nasdaq's listing requirements.

If we fail to meet all applicable Nasdaq requirements and Nasdaq delists our securities from trading on its exchange, we expect our securities could be quoted on the Over-The-Counter Bulletin Board ("OTCBB") or the "pink sheets." If this were to occur, we could face significant material adverse consequences, including:

a limited availability of market quotations for our securities;

reduced liquidity for our securities;

a determination that our common stock is "penny stock" which will require brokers trading in our common stock to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for our securities;

a limited amount of news and analyst coverage; and

a decreased ability to issue additional securities or obtain additional financing in the future.

Furthermore, The National Securities Markets Improvement Act of 1996 ("NSMIA"), which is a federal statute, prevents or preempts the states from regulating the sale of certain securities, which are referred to as "covered securities." Because our common stock is listed on Nasdaq, they are covered securities for the purpose of NSMIA. If our securities were no longer listed on Nasdaq and therefore not "covered securities", we would be subject to regulation in each state in which we offer our securities.

We do not intend to pay cash dividends.

We do not anticipate paying cash dividends on our common stock in the foreseeable future. We may not have sufficient funds to legally pay dividends. Even if funds are legally available to pay dividends, we may nevertheless decide in our sole discretion not to pay dividends. The declaration, payment and amount of any future dividends will be made at the discretion of the board of directors, and will depend upon, among other things, the results of our operations, cash flows and financial condition, operating and capital requirements, and other factors our board of directors may consider relevant. There is no assurance that we will pay any dividends in the future, and, if dividends are declared, there is no assurance with respect to the amount of any such dividend.

Our operating history and lack of profits could lead to wide fluctuations in our share price. The market price for our common shares is particularly volatile given our status as a relatively unknown company with a small and thinly traded public float.

The market for our common shares is characterized by significant price volatility when compared to seasoned issuers, and we expect that our share price will continue to be more volatile than a seasoned issuer for the indefinite future. The volatility in our share price is attributable to a number of factors. First, as noted above, our common shares are sporadically and thinly traded. As a consequence of this lack of liquidity, the trading of relatively small quantities of shares by our stockholders may disproportionately influence the price of those shares in either direction. The price for our shares could, for example, decline precipitously in the event that a large number of our common shares are sold on the market without commensurate demand, as compared to a seasoned issuer which could better absorb those sales without adverse impact on its share price. Secondly, we are a speculative or "risky" investment due to our limited operating history and lack of profits to date. As a consequence of this enhanced risk, more risk-adverse investors may, under the fear of losing all or most of their investment in the event of negative news or lack of progress, be more inclined to sell their shares on the market more quickly and at greater discounts than would be the case with the stock of a seasoned issuer. Many of these factors are beyond our control and may decrease the market price of our common shares, regardless of our operating performance. We cannot make any predictions or projections as to what the prevailing market price for our common shares will be at any time, including as to whether our common shares will sustain their current market prices, or as to what effect that the sale of shares or the availability of common shares for sale at any time will have on the prevailing market price.

ITEM 2. PROPERTIES

Our corporate headquarters are located at 1345 Avenue of Americas, 15th Floor, New York. On January 1, 2017, CBMG Shanghai entered into a 10-year lease agreement with Shanghai Chuangtong Industrial Development Co., Ltd., pursuant to which the Company leased a 10,501.6 square meter building located in the "Pharma Valley" of Shanghai, the People's Republic of China for research and development, manufacturing and office space purposes. Subject to a 5-month rent-free renovation period, the monthly rent for the first two years is determined by floor and ranges from 3.7 yuan to 4.3 yuan per square meter per day, for an aggregate monthly rent for the entire Property of approximately 1.3 million yuan ($203,000). The term of the Lease is 10 years, starting from January 1, 2017 and ending on December 31, 2026 (the "Original Term"). During the Original Term, the monthly rent will increase by 6% every two years. We currently pay rent for a total of $265,000 per month for an aggregate of approximately 181,000 square feet of space to house our administration, research and manufacturing facilities in Maryland and in the cities of Wuxi, Beijing and Shanghai in China.

ITEM 3. LEGAL PROCEEDINGS

We are currently not involved in any litigation that we believe could have a materially adverse effect on our financial condition or results of operations.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON STOCK, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES.

Our common stock is quoted on the Nasdaq Global Market under the symbol "CBMG." Our stock was formerly quoted under the symbol “EBIG.”

As of February 4, 2019, there were 19,136,867 and 18,081,368 shares of common stock of the Company issued and outstanding, respectively, and there were approximately 1,700 stockholders of record of the Company's common stock.

Effective January 18, 2013, the Company completed its reincorporation from the State of Arizona to the State of Delaware (the “Reincorporation”). In connection with the Reincorporation, shares of the former Arizona entity were exchanged into shares of the Delaware entity at a ratio of 100 Arizona shares for each 1 Delaware share, resulting in the same effect as a 1:100 reverse stock split. The Reincorporation became effective on January 31, 2013. Please refer to the Current Report on Form 8-K, filed by the Company on January 25, 2013. All values have been retroactively adjusted.

Equity Compensation Plans

2009 Stock Option Plan

During the first quarter of 2009, the Company's Board of Directors approved and adopted the 2009 Stock Option Plan (the "Plan") and designated 100,000 of its common stock for issuance under the Plan to employees, directors or consultants for the Company through either the issuance of shares or stock option grants. Under the terms of the Plan, stock option grants shall be made with exercise prices not less than 100% of the fair market value of the shares of common stock on the grant date. There are 4,593 shares available for issuance under this plan as of December 31, 2018.

2011 Incentive Stock Option Plan (as amended)

During the last quarter of 2011, the Company's Board of Directors approved and adopted the 2011 Incentive Plan (the "2011 Plan") and designated 300,000 of its no par common stock for issuance under the 2011 Plan to employees, directors or consultants for the Company through either the issuance of shares or stock option grants. Under the terms of the 2011 Plan, stock option grants were authorized to be made with exercise prices not less than 100% of the fair market value of the shares of common stock on the grant date. On November 30, 2012, the Company’s Board of Directors approved the Amended and Restated 2011 Incentive Stock Option Plan (the “Restated Plan”), which amended and restated the 2011 Plan to provide for the issuance of up to 780,000 (increasing up to 1% per year) shares of common stock. The Restated Plan was approved by our stockholders on January 17, 2013. There are 2,805 shares available for issuance under this plan as of December 31, 2018.

2013 Stock Incentive Plan

On August 29, 2013, the Company’s Board of Directors adopted the Cellular Biomedicine Group, Inc. 2013 Stock Incentive Plan (the “2013 Plan”) to attract and retain the best available personnel, to provide additional incentive to Employees, Directors and Consultants and to promote the success of the Company’s business. The 2013 Plan was approved by our stockholders on December 9, 2013. There are 48,236 shares available for issuance under this plan as of December 31, 2018.

The following summary describes the material features of the 2013 Plan. The summary, however, does not purport to be a complete description of all the provisions of the 2013 Plan. The following description is qualified in its entirety by reference to the Plan.

Description of the 2013 Plan

The purpose of the 2013 Plan is to attract and retain the best available personnel, to provide additional incentive to employees, directors and consultants and to promote the success of the Company's business. The Company has reserved up to one million (1,000,000) of the authorized but unissued or reacquired shares of common stock of the Company. The Board or its appointed administrator has the power and authority to grant awards and act as administrator thereunder to establish the grant terms, including the grant price, vesting period and exercise date.

Each sale or award of shares under the 2013 Plan is made pursuant to the terms and conditions provided for in an award agreement (an "Award Agreement") entered into by the Company and the individual recipient. The number of shares covered by each outstanding Award Agreement shall be proportionately adjusted for (a) any increase or decrease in the number of issued shares of common stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the common stock, or similar transaction affecting the common stock or (b) any other increase or decrease in the number of issued shares of common stock effected without receipt of consideration by the Company.

Under the 2013 Plan, the Board or its administrator have the authority to: (i) to select the employees, directors and consultants to whom awards may be granted from time to time hereunder; (ii) to determine whether and to what extent awards are granted; (iii) to determine the number of shares or the amount of other consideration to be covered by each award granted; (iv) to approve forms of Award Agreements for use under the 2013 Plan; (v) to determine the terms and conditions of any award granted; (vi) to establish additional terms, conditions, rules or procedures to accommodate the rules or laws of applicable foreign jurisdictions and to afford grantees favorable treatment under such rules or laws; provided, however, that no award shall be granted under any such additional terms, conditions, rules or procedures with terms or conditions which are inconsistent with the provisions of the 2013 Plan; (vii) to amend the terms of any outstanding award granted under the 2013 Plan, provided that any amendment that would adversely affect the grantee's rights under an outstanding award shall not be made without the grantee's written consent; (viii) to construe and interpret the terms of the 2013 Plan and awards, including without limitation, any notice of award or Award Agreement, granted pursuant to the 2013 Plan; (ix) to take such other action, not inconsistent with the terms of the 2013 Plan, as the administrator deems appropriate.

The awards under the 2013 Plan other than Incentive Stock Options ("ISOs") may be granted to employees, directors and consultants. ISOs may be granted only to Employees of the Company, a parent or a subsidiary. An employee, director or consultant who has been granted an award may, if otherwise eligible, be granted additional awards. Awards may be granted to such employees, directors or consultants who are residing in foreign jurisdictions as the administrator may determine from time to time. Options granted under the 2013 Plan will be subject to the terms and conditions established by the administrator. Under the terms of the 2013 Plan, the exercise price of the options will not be less than the fair market value (as determined under the 2013 Plan) of our common stock at the time of grant. Options granted under the 2013 Plan will be subject to such terms, including the exercise price and the conditions and timing of exercise, as may be determined by the administrator and specified in the applicable award agreement. The maximum term of an option granted under the 2013 Plan will be ten years from the date of grant. Payment in respect of the exercise of an option may be made in cash, by certified or official bank check, by money order or with shares, pursuant to a "cashless" or "net issue" exercise, by a combination thereof, or by such other method as the administrator may determine to be appropriate and has been included in the terms of the option.

The 2013 Plan may be amended, suspended or terminated by the Board, or an administrator appointed by the Board, at any time and for any reason.

2014 Stock Incentive Plan

On September 22, 2014, the Company's Board of Directors adopted the Cellular Biomedicine Group, Inc. 2014 Stock Incentive Plan (the "2014 Plan") covering 1.2 million shares to attract and retain the best available personnel, to provide additional incentive to Employees, Directors and Consultants and to promote the success of the Company's business. The 2014 Plan was approved by our stockholders on November 7, 2014. In 2017 the Company's Board of Directors approved the Amended and Restated 2014 Incentive Stock Option Plan (the "Restated Plan"), which amended and restated the 2014 Plan to increase the number of shares available for issuance by 1,000,000 shares. The Restated Plan was approved by our stockholders on April 28, 2017. There are 175,577 shares available for issuance under this plan as of December 31, 2018.

The following summary describes the material features of the 2014 Plan. The summary, however, does not purport to be a complete description of all the provisions of the 2014 Plan. The following description is qualified in its entirety by reference to the Plan.

Description of the 2014 Plan

The purpose of the 2014 Plan is to attract and retain the best available personnel, to provide additional incentive to employees, directors and consultants and to promote the success of the Company's business. The Company has reserved up to 1.2 million (1,200,000) of the authorized but unissued or reacquired shares of common stock of the Company. The Board or its appointed administrator has the power and authority to grant awards and act as administrator thereunder to establish the grant terms, including the grant price, vesting period and exercise date.

Each sale or award of shares under the 2014 Plan is made pursuant to the terms and conditions provided for in an award agreement (an "Award Agreement") entered into by the Company and the individual recipient. The number of shares covered by each outstanding Award Agreement shall be proportionately adjusted for (a) any increase or decrease in the number of issued shares of common stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the common stock, or similar transaction affecting the common stock or (b) any other increase or decrease in the number of issued shares of common stock effected without receipt of consideration by the Company.

Under the 2014 Plan, the Board or its administrator have the authority to: (i) to select the employees, directors and consultants to whom awards may be granted from time to time hereunder; (ii) to determine whether and to what extent awards are granted; (iii) to determine the number of shares or the amount of other consideration to be covered by each award granted; (iv) to approve forms of Award Agreements for use under the 2014 Plan; (v) to determine the terms and conditions of any award granted; (vi) to establish additional terms, conditions, rules or procedures to accommodate the rules or laws of applicable foreign jurisdictions and to afford grantees favorable treatment under such rules or laws; provided, however, that no award shall be granted under any such additional terms, conditions, rules or procedures with terms or conditions which are inconsistent with the provisions of the 2014 Plan; (vii) to amend the terms of any outstanding award granted under the 2014 Plan, provided that any amendment that would adversely affect the grantee's rights under an outstanding award shall not be made without the grantee's written consent; (viii) to construe and interpret the terms of the 2014 Plan and awards, including without limitation, any notice of award or Award Agreement, granted pursuant to the 2014 Plan; (ix) to take such other action, not inconsistent with the terms of the 2014 Plan, as the administrator deems appropriate.

The awards under the 2014 Plan other than Incentive Stock Options ("ISOs") may be granted to employees, directors and consultants. ISOs may be granted only to Employees of the Company, a parent or a subsidiary. An employee, director or consultant who has been granted an award may, if otherwise eligible, be granted additional awards. Awards may be granted to such employees, directors or consultants who are residing in foreign jurisdictions as the administrator may determine from time to time. Options granted under the 2014 Plan will be subject to the terms and conditions established by the administrator. Under the terms of the 2014 Plan, the exercise price of the options will not be less than the fair market value (as determined under the 2013 Plan) of our common stock at the time of grant. Options granted under the 2014 Plan will be subject to such terms, including the exercise price and the conditions and timing of exercise, as may be determined by the administrator and specified in the applicable award agreement. The maximum term of an option granted under the 2014 Plan will be ten years from the date of grant. Payment in respect of the exercise of an option may be made in cash, by certified or official bank check, by money order or with shares, pursuant to a "cashless" or "net issue" exercise, by a combination thereof, or by such other method as the administrator may determine to be appropriate and has been included in the terms of the option.

The 2014 Plan may be amended, suspended or terminated by the Board, or an administrator appointed by the Board, at any time and for any reason.

All Equity Compensation Plans

The following table presents securities authorized for issuance under the Company's equity compensation plans, as of December 31, 2018:

Plan Category	Number of securities to be issued upon exercise of outstanding options,	Weighted-average exercise price of outstanding options, warrants and rights ($)	Number of securities remaining available

	warrants and rights (#)		for future issuance under equity compensation plans
Equity compensation plans approved by stockholders	2,056,817	$11.03	231,211
Equity compensation plans not approved by stockholders	-	-	-
Total	2,056,817	$11.03	231,211

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Stock Performance Graph

The line graph that follows compares the cumulative total stockholder return on our shares of common stock with the cumulative total return of the Nasdaq Healthcare Index (^IXHC)* and the Russell 3000 Index (RUA)* Index for the five years ended December 31, 2018. The graph and table assume that $100 was invested on the last day of trading for the fiscal year 2013 in each of our shares of common stock, the Nasdaq Healthcare Index, and the Russell 3000 Index, and that no dividends were paid. Cumulative total stockholder returns for our shares of common stock, Nasdaq Healthcare Index, and the Russell 3000 Index are based on our fiscal year, which is the same as the calendar year.

Transfer Agent

The Company's transfer agent and Registrar for the common stock is Corporate Stock Transfer, Inc. located in Denver, Colorado.

Recent Sales of Unregistered Securities

All unregistered sales and issuances of equity securities for the year ended December 31, 2018 were previously disclosed in a Form 8-K or Form 10-Q filed with the SEC.

ITEM 6. SELECTED FINANCIAL DATA

The following tables set forth certain of our selected consolidated financial data as of the dates and for the years indicated. Historical results are not necessarily indicative of the results to be expected for any future period.

The following selected consolidated financial information was derived from our fiscal year end consolidated financial statements. The following information should be read in conjunction with those statements and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations.". Our summary consolidated statement of operations and comprehensive loss data for the fiscal years ended December 31, 2016, 2017 and 2018 and our summary consolidated balance sheet data as of December 31, 2017 and 2018, as set forth below, are derived from, and are qualified in their entirety by reference to, our audited consolidated financial statements, including the notes thereto, which are included in this Annual Report. The summary balance sheet data as of December 31, 2016, 2015 and 2014, and summary consolidated statement of operations and comprehensive loss data for the fiscal years ended December 31, 2015 and 2014, set forth below are derived from our audited consolidated financial statements which are not included herein.

Our consolidated financial statements are prepared and presented in accordance with accounting principles generally accepted in the United States, or U.S. GAAP.

	For the Year Ended December 31,				
	2018	2017	2016	2015	2014
Summary Consolidated statement of operations and comprehensive loss data:					
Net sales and revenue	$224,403	$336,817	$627,930	$2,505,423	$564,377
Operating expenses:					
Cost of sales	135,761	162,218	860,417	1,880,331	242,215
General and administrative	13,220,757	12,780,483	11,670,506	13,068,255	7,875,413
Selling and marketing	308,830	360,766	425,040	709,151	314,894
Research and development	24,150,480	14,609,917	11,475,587	7,573,228	3,146,499
Impairment on non-current assets	2,914,320	-	4,611,714	123,428	1,427,840

Total operating expenses	40,730,148	27,913,384	29,043,264	23,354,393	13,006,861
Operating loss	(40,505,745)	(27,576,567)	(28,415,334)	(20,848,970)	(12,442,484)
Other income:					
Interest income	392,328	133,621	78,943	42,220	15,043
Other income	1,172,879	1,955,086	132,108	630,428	71,982
Total other income	1,565,207	2,088,707	211,051	672,648	87,025
Loss from continuing operations before taxes	(38,940,538)	(25,487,860)	(28,204,283)	(20,176,322)	(12,355,459)
Income taxes credit (provision)	(4,954)	(2,450)	(4,093)	728,601	-
Loss from continuing operations	(38,945,492)	(25,490,310)	(28,208,376)	(19,447,721)	(12,355,459)
Loss on discontinued operations, net of taxes	-	-	-	-	(3,119,152)
Net loss	$(38,945,492)	$(25,490,310)	$(28,208,376)	$(19,447,721)	$(15,474,611)
Other comprehensive income (loss):					
Cumulative translation adjustment	(1,079,689)	967,189	(743,271)	(307,950)	15,254
Unrealized gain (loss) on investments, net of tax	-	(240,000)	5,300,633	(1,376,540)	1,611,045
Reclassification adjustments, net of tax, in connection with other-than-temporary impairment of investments	-	-	(5,557,939)	-	-
Total other comprehensive income (loss):	(1,079,689)	727,189	(1,000,577)	(1,684,490)	1,626,299
Comprehensive loss	$(40,025,181)	$(24,763,121)	$(29,208,953)	$(21,132,211)	$(13,848,312)
Net loss per share :					
Basic and diluted	$(2.20)	$(1.78)	$(2.09)	$(1.70)	$(1.79)
Weighted average common shares outstanding:					
Basic and diluted	17,741,104	14,345,604	13,507,408	11,472,306	8,627,094

	As of December 31,				
	2018	2017	2016	2015	2014
Summary Consolidated balance sheet data:					
Cash and cash equivalents	$52,812,880	$21,568,422	$39,252,432	$14,884,597	$14,770,584
Current working capital (1)	48,440,775	20,118,725	38,328,048	13,675,034	12,019,143
Total assets	91,643,146	61,162,296	68,628,467	49,460,422	43,685,102
Other non-current liabilities	257,818	183,649	370,477	76,229	452,689
Stockholders’ equity	85,218,392	57,302,526	65,893,954	46,364,936	39,156,091

1.
Current working capital is the difference between total current assets and total current liabilities.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

The following is management's discussion and analysis of certain significant factors that have affected our financial position and operating results during the periods included in the accompanying consolidated financial statements, as well as information relating to the plans of our current management. This report includes forward-looking statements. Generally, the words "believes," "anticipates," "may," "will," "should," "expect," "intend," "estimate," "continue," and similar expressions or the negative thereof or comparable terminology are intended to identify forward-looking statements. Such statements are subject to certain risks and uncertainties, including the matters set forth in this report or other reports or documents we file with the Securities and Exchange Commission from time to time, which could cause actual results or outcomes to differ materially from those projected. Undue reliance should not be placed on these forward-looking statements which speak only as of the date hereof. We undertake no obligation to update these forward-looking statements.

The following discussion and analysis should be read in conjunction with our consolidated financial statements and the related notes thereto and other financial information included in Item 8 of this Annual Report on Form 10-K.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Our management periodically evaluates the estimates and judgments made. Management bases its estimates and judgments on historical experience and on various factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates as a result of different assumptions or conditions.

The following summarizes critical estimates made by management in the preparation of the consolidated financial statements.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of three months or less to be cash equivalents. As of December 31, 2018 and 2017, respectively, cash and cash equivalents include cash on hand and cash in the bank. At times, cash deposits may exceed government-insured limits.

Accounts Receivable

Accounts receivable represent amounts earned but not collected in connection with the Company's sales as of December 31, 2018 and 2017. Accounts receivable are carried at their estimated collectible amounts.

The Company follows the allowance method of recognizing uncollectible accounts receivable. The Company recognizes bad debt expense based on specifically identified customers and invoices that are anticipated to be uncollectable. At December 31, 2018 and 2017, allowance of $94,868 and $10,789 was provided for debtors of certain customers as those debts are unrecoverable from customers, respectively.

Inventory

Inventories consist of raw materials, work-in-process, semi-finished goods and finished goods. Inventories are initially recognized at cost and subsequently at the lower of cost and net realizable value under first-in first-out method. Finished goods are comprised of direct materials, direct labor, depreciation and manufacturing overhead. Net realizable value is the estimated selling price, in the ordinary course of business, less estimated costs to complete and dispose. The Company regularly inspects the shelf life of prepared finished goods and, if necessary, writes down their carrying value based on their salability and expiration dates into cost of goods sold.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Depreciation is provided for on the straight-line method over the estimated useful lives of the assets ranging from three to ten years and begins when the related assets are placed in service. Maintenance and repairs that neither materially add to the value of the property nor appreciably prolong its life are charged to expense as incurred. Betterments or renewals are capitalized when incurred. Plant, property and equipment are reviewed each year to determine whether any events or circumstances indicate that the carrying amount of the assets may not be recoverable. We assess the recoverability of the asset by comparing the projected undiscounted net cash flows associated with the related assets over the estimated remaining life against the respective carrying value.

Goodwill and Other Intangibles

Goodwill represents the excess of the cost of assets acquired over the fair value of the net assets at the date of acquisition. Intangible assets represent the fair value of separately recognizable intangible assets acquired in connection with the Company's business combinations. The Company evaluates its goodwill and other intangibles for impairment on an annual basis or whenever events or circumstances indicate that impairment may have occurred. As of December 31, 2018, the goodwill is $7,678,789, which all derived from the acquisition of Agreen.

As stipulated in ASC 350-20-35-3A, an entity may assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill, in which relevant triggering events and circumstances should be assessed. During the year ended December 31, 2018, it considered no triggering event indicating the goodwill impairment test was required at the balance sheet date. In addition, the Company's market capitalization as at the balance sheet date would fairly reflect the fair value of the Company's research and development efforts so as to provide an indication of whether the goodwill is subject to the impairment loss. Our market capitalization exceeds the carrying amount of net assets (including goodwill) of the Company. No impairment loss of goodwill is considered required as of December 31, 2018.

Other intangibles mainly consists of knowhow, technologies, patent, licenses acquired and purchased software. The Company reviews the carrying value of long-lived assets to be held and used, including other intangible assets subject

to amortization, when events and circumstances warrants such a review. The carrying value of a long-lived asset is considered impaired when the anticipated undiscounted cash flow from such asset is separately identifiable and is less than its carrying value. The Company recognized a full impairment of $2,884,896 for the USF and Moffitt licenses for year ended December 31, 2018.

The Company is an expanding company with a short operating history, accordingly, the Company faces some potential events and uncertainties encountered by companies in the earlier stages of development and expansion, such as: (1) continuing market acceptance for our product extensions and our services; (2) changing competitive conditions, technological advances or customer preferences that could harm sales of our products or services; (3) maintaining effective control of our costs and expenses. If the Company is not able to meet the challenge of building our businesses and managing our growth, the likely result would be slowed growth, lower margins, additional operational costs and lower income, and a risk of impairment charge of intangibles in future filings.

Treasury Stock

The treasury stock is recorded and carried at their repurchase cost. The Company recorded the entire purchase price of the treasury stock as a reduction of equity. A gain and or loss will be determined when treasury stock is reissued or retired, and the original issue price and book value of the stock do not enter into the accounting. Additional paid-in capital from treasury stock is credited for gains and debited for losses when treasury stock is reissued at prices that differ from the repurchase cost.

Government Grants

Government grants are recognized in the balance sheet initially when there is reasonable assurance that they will be received and that the enterprise will comply with the conditions attached to them. When the Company received the government grants but the conditions attached to the grants have not been fulfilled, such government grants are deferred and recorded as deferred income. The reclassification of short-term or long-term liabilities is depended on the management's expectation of when the conditions attached to the grant can be fulfilled. Grants that compensate the Company for expenses incurred are recognized as other income in statement of income on a systematic basis in the same periods in which the expenses are incurred.

For the year ended December 31, 2018 and 2017, the Company received government grants of $1,105,272 and $1,905,213 for purpose of R&D and related capital expenditure, respectively. Government subsidies recognized as other income in the statement of income for the year ended December 31, 2018 and 2017 were $1,119,827 and $2,077,486, respectively.

Fair Value of Financial Instruments

Under the FASB's authoritative guidance on fair value measurements, fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In determining the fair value, the Company uses various methods including market, income and cost approaches. Based on these approaches, the Company often utilizes certain assumptions that market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique. These inputs can be readily observable, market corroborated or generally unobservable inputs. The Company uses valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. Based on observability of the inputs used in the valuation techniques, the Company is required to provide the following information according to the fair value hierarchy. The fair value hierarchy ranks the quality and reliability of the information used to determine fair values. Financial assets and liabilities carried at fair value are classified and disclosed in one of the following three categories:

Level 1: Valuations for assets and liabilities traded in active exchange markets. Valuations are obtained from readily available pricing sources for market transactions involving identical assets or liabilities.

Level 2: Valuations for assets and liabilities traded in less active dealer or broker markets. Valuations are obtained from third party pricing services for identical or similar assets or liabilities.

Level 3: Valuations for assets and liabilities that are derived from other valuation methodologies, including option pricing models, discounted cash flow models and similar techniques, and not based on market exchange, dealer or broker traded transactions. Level 3 valuations incorporate certain unobservable assumptions and projections in determining the fair value assigned to such assets.

All transfers between fair value hierarchy levels are recognized by the Company at the end of each reporting period. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, an investment's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement in its entirety requires judgment, and considers factors specific to the investment. The inputs or methodology used for valuing financial instruments are not necessarily an indication of the risks associated with investment in those instruments.

The carrying amounts of other financial instruments, including cash, accounts receivable, accounts payable and accrued liabilities, income tax payable and related party payable approximate fair value due to their short maturities.

Investments

The fair value of “investments” is dependent on the type of investment, whether it is marketable or non-marketable.

Marketable securities held by the Company are held for an indefinite period of time and thus are classified as available-for-sale securities. The fair value is based on quoted market prices for the investment as of the balance sheet date. Realized investment gains and losses are included in the statement of operations, as are provisions for other than temporary declines in the market value of available for-sale securities. Unrealized gains and unrealized losses deemed to be temporary are excluded from earnings (losses), net of applicable taxes, as a component of other comprehensive income (loss). Factors considered in judging whether an impairment is other than temporary include the financial condition, business prospects and creditworthiness of the issuer, the length of time that fair value has been less than cost, the relative amount of decline, and the Company’s ability and intent to hold the investment until the fair value recovers.

Stock-Based Compensation

We periodically use stock-based awards, consisting of shares of common stock or stock options, to compensate officers, employees, directors and consultants. Awards are expensed on a straight line basis over the requisite service period based on the grant date fair value, net of estimated forfeitures, if any.

Revenue Recognition

Revenues consist mainly of cell banking services as well as cell therapy technology services with customers. The Company evaluates the separate performance obligation(s) under each contract, allocates the transaction price to each performance obligation considering the estimated stand-alone selling prices of the services and recognizes revenue upon the satisfaction of such obligations over time or at a point in time dependent on the satisfaction of one of the following criteria: (1) the customer simultaneously receives and consumes the economic benefits provided by the vendor’s performance (2) the vendor creates or enhances an asset controlled by the customer (3) the vendor’s performance does not create an asset for which the vendor has an alternative use, and the vendor has an enforceable right to payment for performance completed to date. Revenue from rendering of services is measured at the fair value of the consideration received or receivable under the contract or agreement. Revenue from cell therapy technology services is recognized in profit or loss at the point when customers simultaneously receive and consume the services. Revenue from cell banking storage is recognized in profit or loss on a straight-line basis over the storage period.

Income Taxes

Income taxes are accounted for using the asset and liability method as prescribed by ASC 740 “Income Taxes”. Under this method, deferred income tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which these temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance would be provided for those deferred tax assets for which if it is more likely than not that the related benefit will not be realized.

While we have optimistic plans for our business strategy, we determined that a full valuation allowance was necessary against all net deferred tax assets as of December 31, 2018 and 2017, given the current and expected near term losses and the uncertainty with respect to our ability to generate sufficient profits from our business model.

Recent Accounting Pronouncements

Accounting pronouncements adopted during the year ended December 31, 2018

In May 2017, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2017-09, “Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting” (“ASU 2017-09”), which provides guidance on determining which changes to the terms and conditions of share-based payment awards require an entity to apply modification accounting under Topic 718. The amendments in this ASU are effective for all entities for annual periods, and interim periods within those annual periods, beginning after December 15, 2017. Early adoption is permitted, including adoption in any interim period, for (1) public business entities for reporting periods for which financial statements have not yet been issued and (2) all other entities for reporting periods for which financial statements have not yet been made available for issuance. The amendments in this ASU should be applied prospectively to an award modified on or after the adoption date. The adoption of the ASU 2017-09 did not have a material impact on the Company’s consolidated financial statements.

In February 2017, the FASB issued ASU No. 2017-05, "Other Income—Gains and Losses from the Derecognition of Nonfinancial Assets (Subtopic 610-20): Clarifying the Scope of Asset Derecognition Guidance and Accounting for Partial Sales of Nonfinancial Assets" ("ASU 2017-05"), which clarifies the scope of the nonfinancial asset guidance in Subtopic 610-20. This ASU also clarifies that the derecognition of all businesses and nonprofit activities (except those related to conveyances of oil and gas mineral rights or contracts with customers) should be accounted for in accordance with the derecognition and deconsolidation guidance in Subtopic 810-10. The amendments in this ASU also provide guidance on the accounting for what often are referred to as partial sales of nonfinancial assets within the scope of Subtopic 610-20 and contributions of nonfinancial assets to a joint venture or other non-controlled investee. The amendments in this ASU are effective for annual reporting reports beginning after December 15, 2017, including interim reporting periods within that reporting period. Public entities may apply the guidance earlier but only as of annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period. The adoption of the ASU 2017-05 did not have a material impact on the Company's consolidated financial statements.

In November 2016, the FASB issued ASU No. 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash" ("ASU 2016-18"), which requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The amendments in this ASU do not provide a definition of restricted cash or restricted cash equivalents. The amendments in this ASU are effective for public business entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. The adoption of the ASU 2016-18 did not have a material impact on the Company's consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments" ("ASU 2016-15"), which addresses the following eight specific cash flow issues: debt prepayment or debt extinguishment costs; settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of the borrowing; contingent consideration payments made after a business combination; proceeds from the settlement of insurance claims; proceeds from the settlement of corporate-owned life insurance policies (including bank-owned life insurance policies; distributions received from equity method investees; beneficial interests in securitization transactions; and separately identifiable cash flows and application of the predominance principle. The amendments in this ASU are effective for public business entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. The adoption of the ASU 2016-15 did not have a material impact on the Company's consolidated financial statements.

In January 2016, the FASB issued ASU No. 2016-01, "Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities" ("ASU 2016-01"). The amendments in this update require all equity investments to be measured at fair value with changes in the fair value recognized through net income (other than those accounted for under equity method of accounting or those that result in consolidation of the investee). The amendments in this update also require an entity to present separately in other comprehensive income the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk when the entity has elected to measure the liability at fair value in accordance with the fair value option for financial instruments. In addition, the amendments in this update eliminate the requirement for to disclose the method(s) and significant assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at amortized cost on the balance sheet for public entities. For public business entities, the amendments in ASU 2016-01 are effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Except for the early application guidance discussed in ASU 2016-01, early adoption of the amendments in this update is not permitted. The adoption of the ASU 2016-01 did not have a material impact

on the Company's consolidated financial statements.

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2014-09, Revenue from Contracts with Customers. ASU 2014-09 and its related amendments provide companies with a single model for accounting for revenue arising from contracts with customers and supersedes prior revenue recognition guidance, including industry-specific revenue guidance. The core principle of the model is to recognize revenue when control of the goods or services transfers to the customer, as opposed to recognizing revenue when the risks and rewards transfer to the customer under the existing revenue guidance. The guidance permits companies to either apply the requirements retrospectively to all prior periods presented, or apply the requirements in the year of adoption, through a cumulative adjustment. The Company adopted the new accounting standard using the modified retrospective transition method effective January 1, 2018 and there was no impact on the Company's consolidated financial statements.

Accounting pronouncements not yet effective

In August 2018, the FASB issued Accounting Standards Update ("ASU") No. 2018-13, Fair Value Measurement (Topic 820), which eliminates, adds and modifies certain disclosure requirements for fair value measurements. The modified standard eliminates the requirement to disclose changes in unrealized gains and losses included in earnings for recurring Level 3 fair value measurements and requires changes in unrealized gains and losses be included in other comprehensive income for recurring Level 3 fair value measurements of instruments. The standard also requires the disclosure of the range and weighted average used to develop significant unobservable inputs and how weighted average is calculate for recurring and nonrecurring Level 3 fair value measurements. The amendment is effective for fiscal years beginning after December 15, 2019 and interim periods within that fiscal year with early adoption permitted. We do not expect the standard to have a material impact on our consolidated financial statements.

In June 2018, the FASB issued ASU 2018-07, which simplifies several aspects of the accounting for nonemployee share-based payment transactions resulting from expanding the scope of Topic 718, Compensation-Stock Compensation, to include share-based payment transactions for acquiring goods and services from non-employees. Some of the areas for simplification apply only to nonpublic entities. The amendments specify that Topic 718 applies to all share-based payment transactions in which a grantor acquires goods or services to be used or consumed in a grantor's own operations by issuing share-based payment awards. The amendments also clarify that Topic 718 does not apply to share-based payments used to effectively provide (1) financing to the issuer or (2) awards granted in conjunction with selling goods or services to customers as part of a contract accounted for under Topic 606, Revenue from Contracts with Customers. The amendments in this Update are effective for public business entities for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted. We do not plan to early adopt this ASU. We are currently evaluating the potential impacts of this updated guidance, and do not expect the adoption of this guidance to have a material impact on our consolidated financial statements and related disclosures.

In February 2018, the FASB issued ASU No. 2018-02, "Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income" ("ASU 2018-02"), which provides financial statement preparers with an option to reclassify stranded tax effects within accumulated other comprehensive income to retained earnings in each period in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Cuts and Jobs Act (or portion thereof) is recorded. The amendments in this ASU are effective for all entities for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption of ASU 2018-02 is permitted, including adoption in any interim period for the public business entities for reporting periods for which financial statements have not yet been issued. The amendments in this ASU should be applied either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Cuts and Jobs Act is recognized. We do not expect the adoption of ASU 2018-02 to have a material impact on our consolidated financial statements.

In July 2017, the FASB issued ASU No. 2017-11, "Earnings Per Share (Topic 260); Distinguishing Liabilities from Equity (Topic 480); Derivatives and Hedging (Topic 815): (Part I) Accounting for Certain Financial Instruments with Down Round Features, (Part II) Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Non-controlling Interests with a Scope Exception" ("ASU 2017-11"), which addresses the complexity of accounting for certain financial instruments with down round features. Down round features are features of certain equity-linked instruments (or embedded features) that result in the strike price being reduced on the basis of the pricing of future equity offerings. Current accounting guidance creates cost and complexity for entities that issue financial instruments (such as warrants and convertible instruments) with down round features that require fair value measurement of the entire instrument or conversion option. The amendments in Part I of this ASU are effective for public business entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. The Company is currently evaluating the impact

of the adoption of ASU 2017-11 on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, “Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment” (“ASU 2017-04”), which removes Step 2 from the goodwill impairment test. An entity will apply a one-step quantitative test and record the amount of goodwill impairment as the excess of a reporting unit's carrying amount over its fair value, not to exceed the total amount of goodwill allocated to the reporting unit. The new guidance does not amend the optional qualitative assessment of goodwill impairment. Public business entity that is a U.S. Securities and Exchange Commission filer should adopt the amendments in this ASU for its annual or any interim goodwill impairment test in fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. We are currently evaluating the impact of the adoption of ASU 2017-04 on our consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, “Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments” (“ASU 2016-13”). Financial Instruments—Credit Losses (Topic 326) amends guideline on reporting credit losses for assets held at amortized cost basis and available-for-sale debt securities. For assets held at amortized cost basis, Topic 326 eliminates the probable initial recognition threshold in current GAAP and, instead, requires an entity to reflect its current estimate of all expected credit losses. The allowance for credit losses is a valuation account that is deducted from the amortized cost basis of the financial assets to present the net amount expected to be collected. For available-for-sale debt securities, credit losses should be measured in a manner similar to current GAAP, however Topic 326 will require that credit losses be presented as an allowance rather than as a write-down. ASU 2016-13 affects entities holding financial assets and net investment in leases that are not accounted for at fair value through net income. The amendments affect loans, debt securities, trade receivables, net investments in leases, off balance sheet credit exposures, reinsurance receivables, and any other financial assets not excluded from the scope that have the contractual right to receive cash. The amendments in this ASU will be effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. We are currently evaluating the impact of the adoption of ASU 2016-13 on our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)" ("ASU 2016-02"). The amendments in this update create Topic 842, Leases, and supersede the leases requirements in Topic 840, Leases. Topic 842 specifies the accounting for leases. The objective of Topic 842 is to establish the principles that lessees and lessors shall apply to report useful information to users of financial statements about the amount, timing, and uncertainty of cash flows arising from a lease. The main difference between Topic 842 and Topic 840 is the recognition of lease assets and lease liabilities for those leases classified as operating leases under Topic 840. Topic 842 retains a distinction between finance leases and operating leases. The classification criteria for distinguishing between finance leases and operating leases are substantially similar to the classification criteria for distinguishing between capital leases and operating leases in the previous leases guidance. The result of retaining a distinction between finance leases and operating leases is that under the lessee accounting model in Topic 842, the effect of leases in the statement of comprehensive income and the statement of cash flows is largely unchanged from previous GAAP. The amendments in ASU 2016-02 are effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years for public business entities. Early application of the amendments in ASU 2016-02 is permitted. We are currently evaluating the impact of the adoption of ASU 2016-02 on our consolidated financial statements.

Comparison of Year Ended December 31, 2018 to Years Ended December 31, 2017 and 2016

Although the descriptions in the results of operations below reflect our operating results as set forth in our Consolidated Statement of Operations filed herewith, we are presenting consolidated pro forma information below to reflect the impacts of the business combination as if the transaction had occurred at the beginning of the earliest period presented.

	For the Year Ended December 31,		
	2018	2017	2016
Net sales and revenue	$224,403	$336,817	$627,930
Operating expenses:			
Cost of sales *	135,761	162,218	860,417
General and administrative *	13,220,757	12,780,483	11,670,506
Selling and marketing *	308,830	360,766	425,040
Research and development *	24,150,480	14,609,917	11,475,587
Impairment of non-current assets	2,914,320	-	4,611,714
Total operating expenses	40,730,148	27,913,384	29,043,264
Operating loss	(40,505,745)	(27,576,567)	(28,415,334)
Other income			
Interest income	392,328	133,621	78,943
Other income	1,172,879	1,955,086	132,108
Total other income	1,565,207	2,088,707	211,051
Loss before taxes	(38,940,538)	(25,487,860)	(28,204,283)
Income taxes provision	(4,954)	(2,450)	(4,093)

Net loss	$(38,945,492)	$(25,490,310)	$(28,208,376)
Other comprehensive income (loss):			
Cumulative translation adjustment	(1,079,689)	967,189	(743,271)
Unrealized gain (loss) on investments, net of tax	-	(240,000)	5,300,633
Reclassification adjustments, net of tax, in connection with other-than-temporary impairment of investments	-	-	(5,557,939)
Total other comprehensive income (loss):	(1,079,689)	727,189	(1,000,577)
Comprehensive loss	$(40,025,181)	$(24,763,121)	$(29,208,953)
Net loss per share:			
Basic and diluted	$(2.20)	$(1.78)	$(2.09)
Weighted average common shares outstanding:			
Basic and diluted	17,741,104	14,345,604	13,507,408

* These line items include the following amounts of non-cash, stock-based compensation expense for the periods indicated:

	For the Year Ended December 31,		
	2018	2017	2016
Cost of sales	-	51,288	18,916
General and administrative	2,307,191	2,935,798	3,110,237
Selling and marketing	79,845	52,984	56,704
Research and development	2,439,709	2,305,141	2,266,560
	4,826,745	5,345,211	5,452,417

Segments

The Company is engaged in the development of new treatments for cancerous and degenerative diseases utilizing proprietary cell-based technologies, which have been organized as one reporting segment since they have similar nature and economic characteristics. The Company's principle operating decision maker, the Chief Executive Officer, receives and reviews the result of the operation for all major cell platforms as a whole when making decisions about allocating resources and assessing performance of the Company. In accordance with FASB ASC 280-10, the Company is not required to report the segment information.

Results of Operations:

Revenues

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent
Year ended December 31,	$224,403	$336,817	$627,930	$(112,414)	(33)%	$(291,113)	(46)%

Fiscal Year Ended December 31, 2018, Compared to Fiscal Year Ended December 31, 2017

Revenue for the year ended December 31, 2018 was mainly derived from both cell banking services and cell therapy technology service whereas revenue for the year ended December 31, 2017 was solely derived from cell therapy technology service. In 2018, we determined to further deprioritize our cell therapy technology service, which was only partially offset by the introduction of our cell banking services.

Fiscal Year Ended December 31, 2017, Compared to Fiscal Year Ended December 31, 2016

A majority of the revenue was derived from cell therapy technology service for the year ended December 31, 2017. The decrease in revenue is the result of prioritizing cancer therapeutic technologies, and focusing our clinical efforts on developing CAR-T technologies. Such decrease in revenue was also attributable to the fact that the Company ceased its cooperation with the Jihua Hospital and several agents in the second quarter of 2016 and were not actively pursuing the fragmented technical services opportunities.

Cost of Sales

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent

Year ended December 31,	$135,761	$162,218	$860,417	$(26,457)	(16)%	$(698,199) (81)%

Fiscal Year Ended December 31, 2018, Compared to Fiscal Year Ended December 31, 2017

The gross margin change was a result of the revenue mix change towards adipose cell banking services.

Fiscal Year Ended December 31, 2017, Compared to Fiscal Year Ended December 31, 2016

The cost of sales decreased in line with the sales. The cost of sales in 2016 was mainly due to the high fixed cost of Beijing site. Since there was no revenue from the Beijing site in 2017, the cost of sales decreased significantly.

General and Administrative Expenses

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent
Year ended December 31,	$13,220,757	$12,780,483	$11,670,506	$440,274	3%	$1,109,977	10%

Fiscal Year Ended December 31, 2018, Compared to Fiscal Year Ended December 31, 2017

Change in G&A expenses was primarily additional costs related to advisory in financing, and professional fees in the Novartis transaction.

Fiscal Year Ended December 31, 2017, Compared to Fiscal Year Ended December 31, 2016

Increased expenses in 2017 was primarily attributed to below facts:

An increase in rental expenses of $2,224,000, which mainly resulted from the new leased plant located in the “Pharma Valley” of Shanghai from January 1, 2017;

A decrease in legal, audit and other professional fees of $478,000, which mainly attributed to the Company’s registration statements on Forms S-3 and S-8 filed in first half of 2016 that led to large professional fees in 2016;

A decrease in salary of $465,000; and

A decrease in insurance fee of $171,000, which mainly resulted from the decrease in premium for director and officer liability and Company reimbursement insurance.

Sales and Marketing Expenses

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent
Year ended December 31,	$308,830	$360,766	$425,040	$(51,936)	(14)%	$(64,274)	(15)%

Fiscal Year Ended December 31, 2018, Compared to Fiscal Year Ended December 31, 2017 and 2016

No material change as compared with the year ended December 31, 2017 and 2016.

Research and Development Expenses

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent
Year ended December 31,	$24,150,480	$14,609,917	$11,475,587	$9,540,563	65%	$3,134,330	27%

Fiscal Year Ended December 31, 2018, Compared to Fiscal Year Ended December 31, 2017

Research and development costs increased by approximately $9,541,000 as compared to the year ended December 31, 2017. The increase was primarily attributed to increased spending in the growth of our pipeline in both liquid tumor and solid tumor development and expanding the U.S. R&D operations at Gaithersburg, Maryland.

Fiscal Year Ended December 31, 2017, Compared to Fiscal Year Ended December 31, 2016

Research and development costs increased by approximately $3,134,000 as compared to the year ended December 31, 2016. The increase was primarily attributed to the facts below:

An increase in payroll expenses of $626,000 as a result of headcount increase and payroll raise. Total headcount for our R&D team increased from 81 as of December 31, 2016 to 98 as of December 31, 2017;

An increase in raw material consumption of $447,000;

An increase in rental expenses of $1,514,000, which was mainly attributed to the launching of R&D activities at our Beijing GMP facility in the 2nd quarter of 2016 and the lease of a GMP facility in the United States to commence the KOA preclinical and clinical studies in 2017; and

An increase in depreciation and amortization of $455,000, which was mainly attributed to the purchase of our new equipment for immunotherapy research and development.

Impairment of Non-current Assets

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent
Year ended December 31,	$2,914,320	$-	$4,611,714	$2,914,320	N/A	$(4,611,714)	(100)%

Fiscal Year Ended December 31, 2018, Compared to Fiscal Year Ended December 31, 2017

The impairment of investments for the year ended December 31, 2018 is comprised of the recognition of other than temporary impairment on the value of shares in investments of $29,423 and impairment of $2,884,896 provided against the net book value of GVAX license. No such expense existed for the year ended December 31, 2017.

The Company provided full impairment of $29,424 for shares of ALEV for the year ended December 31, 2018 as ALEV filed Form 15 with the SEC and was no longer traded in the market in recent quarter.

The Company reassessed the prioritization of our immune-oncology assets, decided to terminate the development of GVAX technology and its license agreements with the University of South Florida (“USF”) and the Moffitt Cancer Center (“Moffitt”). As a result the Company made a full impairment of $2,884,896 for the USF and Moffitt licenses.

Fiscal Year Ended December 31, 2017, Compared to Fiscal Year Ended December 31, 2016

No impairment of investment was made in 2017. The impairment of investments in 2016 is attributed to the recognition of other than temporary impairment on the value of shares in investments.

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Operating Loss

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent
Year ended December 31,	$(40,505,745)	$(27,576,567)	$(28,415,334)	$(12,929,178)	47%	$838,767	(3)%

The increase in the operating loss for 2018 as compared to 2017 and the decrease compared to 2016 was primarily due to changes in general and administrative expenses, research and development expenses and impairment of investments, each of which was described above.

Other Income

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent
Year ended December 31,	$1,565,207	$2,088,707	$211,051	$(523,500)	(25)%	$1,877,656	890%

Fiscal Year Ended December 31, 2018, Compared to Fiscal Year Ended December 31, 2017

Other income, net for the year ended December 31, 2018 was primarily government subsidy of $1,120,000, interest income of $392,000, and netting of the net foreign exchange gain of $74,000.

Other income, net for the year ended December 31, 2017 was primarily government subsidy of $2,077,000, interest income of $134,000, and netting of the net foreign exchange loss of $112,000.

Fiscal Year Ended December 31, 2017, Compared to Fiscal Year Ended December 31, 2016

Other income, net for the year ended December 31, 2016 was primarily interest income of $79,000, third party R&D subsidy of $40,000, net foreign exchange gain of $90,000 and government subsidy of $78,000, netting of the charity donation of $78,000.

Income Tax Provision

	2018 versus 2017	2017 versus 2016

	2018	2017	2016	Change	Percent Change	Change	Percent
Year ended December 31,	$(4,954)	$(2,450)	$(4,093)	$(2,504)	102%	$1,643	(40)%

Fiscal Year Ended December 31, 2018, Compared to Fiscal Year Ended December 31, 2017

While we have plans for growing and developing our business, we determined that a valuation allowance was necessary given the current and expected near term losses and the uncertainty with respect to our ability to generate sufficient profits from our business model. Therefore, we established a valuation allowance for deferred tax assets other than the extent of the benefit from other comprehensive income. Income tax expense for the year ended December 31, 2018 was comprised of US state tax of $2,475 and the withholding corporation income tax of $2,479 of Hong Kong subsidiary for its royalty income derived from China. Income tax expense for the year ended December 31, 2017 all represent US state tax.

Fiscal Year Ended December 31, 2017, Compared to Fiscal Year Ended December 31, 2016

Income tax expenses for the year ended December 31, 2017 and 2016 all represent US state tax.

Net Loss

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent
Year ended December 31,	$(38,945,492)	$(25,490,310)	$(28,208,376)	$(13,455,182)	53%	$2,718,066	(10)%

Changes in net loss are primarily attributable to changes in operations of our biomedicine segment which are described above.

Comprehensive Loss

				2018 versus 2017		2017 versus 2016	
	2018	2017	2016	Change	Percent	Change	Percent
Year ended December 31,	$(40,025,181)	$(24,763,121)	$(29,208,953)	$(15,262,060)	62%	$4,445,832	(15)%

Fiscal Year Ended December 31, 2018, Compared to Fiscal Year Ended December 31, 2017

Comprehensive net loss for the year ended December 31, 2018 includes a currency translation net loss of approximately $1,080,000 combined with the changes in net income.

Fiscal Year Ended December 31, 2017, Compared to Fiscal Year Ended December 31, 2016

Comprehensive net loss for 2017 includes unrealized loss on investments of approximately $240,000 and a currency translation net gain of approximately $967,000 combined with the changes in net loss. The unrealized loss on investments was attributed to the valuation change for the stock investment in ARPC.

Share-Based Compensation

Share-based compensation totaled $4.8 million in 2018 ($5.3 million in 2017 and $5.5 million in 2016). Share-based compensation was included in cost of sales and operating expenses.

As of December 31, 2018, unrecognized share-based compensation costs and the weighted average periods over which the costs are expected to be recognized were as follows:

	Shares	Unrealised Share-Based Compensation Costs	Weighted Average Period
Non-vested stock options	492,340	$4,215,079	1.66 year
Non-vested restricted stock	227,951	$2,904,245	1.35 year

Non-vested restricted stock above doesn’t include restricted stock awards (RS) linked to the stock price performance to be issued under long-term incentive plan.

LIQUIDITY AND CAPITAL RESOURCES

We had working capital of $48,440,775 as of December 31, 2018 compared to $20,850,823 as of December 31, 2017. Our cash position increased to $52,812,880 at December 31, 2018 compared to $21,568,422 at December 31, 2017, as we had cash inflow generated from financing activities due to private placement financing in 2018 for aggregate net proceeds of approximately $70,351,173, partially offset by an increase in cash used in operating and investing activities.

Net cash provided by or used in operating, investing and financing activities from continuing operations were as follows (in thousands):

Net cash used in operating activities was approximately $25,113,000, $18,593,000 and $15,868,000 for the years ended December 31, 2018, 2017 and 2016, respectively. The following table reconciles net loss to net cash used in operating activities:

				2018 versus 2017	2017 versus 2016
For year ended December 31,	2018	2017	2016	Change	Change
Net loss	$(38,945,492)	$(25,490,310)	$(28,208,376)	$(13,455,182)	$2,718,066
Income statement reconciliation items	12,704,688	8,331,491	12,596,060	4,373,197	(4,264,569)
Changes in operating assets, net	1,127,805	(1,434,573)	(255,419)	2,562,378	(1,179,154)
Net cash used in operating activities	$(25,112,999)	$(18,593,392)	$(15,867,735)	$(6,519,607)	$(2,725,657)

The 2018 change in non-cash transaction was primarily due to the increase in impairment on intangible assets of $2,885,000 as well as the increase in depreciation and amortization of $2,064,000 compared with same period in 2017. The 2017 change in non-cash transaction was primarily due to the decrease in impairment on investment of $4,612,000 compared with same period in 2016.

Net cash used in investing activities was approximately $6,609,000, $10,193,000 and $2,733,000 for the years ended December 31, 2018, 2017 and 2016, respectively. These amounts were the result of purchases of fixed assets and intangible assets.

Cash provided by financing activities was approximately $63,114,000, $10,826,000 and $43,286,000 for the years ended December 31, 2018, 2017 and 2016, respectively. These amounts were mainly attributable to the proceeds received from the issuance of common stock and exercise of stock options, netting of by the cash used in repurchase of treasury stock.

Liquidity and Capital Requirements Outlook

We anticipate that the Company will require approximately $52 million in cash to operate as planned in the coming 12 months. Of this amount, approximately $36 million will be used in operation and approximately $16 million will be used as capital expenditure, although we may revise these plans depending on the changing circumstances of our biopharmaceutical business.

We expect to rely on current cash balances on hand and additional financing arrangements to provide for these capital requirements. We do not intend to use, and will not rely on our holdings in these illiquid securities to fund our operations. One of our stocks held, Arem Pacific Corporation, has a declared effective S-1 prospectus which relates to the resale of up to 13,694,711 shares of common stock, inclusive of the 8,000,000 shares held by the Company. However, the shares offered by this filing may only be sold by the selling stockholders at $0.05 per share until the shares are quoted on the OTCQB® tier of OTC Markets or an exchange. Other two of our stocks held, Alpha Lujo, Inc. (“ALEV”) and Wonder International Education & Investment Group Corporation (“Wonder”), are no longer traded on any stock market. We do not know whether we can liquidate any of our 8,000,000 shares of Arem Pacific stock or the 2,942,350 shares of ALEV stock and the 2,057,131 shares of Wonder stock, or if liquidated, whether the realized amount will be meaningful at all. As a result, we have written down these stocks to their fair value.

Recent Equity Financing

In February and April of 2016, the Company completed two closings of a financing transaction with Wuhan Dangdai Science & Technology Industries Group Inc., pursuant to which the Company sold to the Investor an aggregate of 2,270,000 shares of the Company's common stock, par value $0.001 per share, for approximately $43,130,000 in gross proceeds. On March 22, 2016, the Company filed a registration statement on Form S-3 to offer and sell from time to time, in one or more series, any of the securities of the Company, for total gross proceeds up to $150,000,000. On June 17, 2016, the SEC declared the S-3 effective; we have yet to utilize any of the $150,000,000 registered under the S-3. On December 26, 2017, the Company entered into a Share Purchase Agreement with two investors, pursuant to which the Company agreed to sell and the two investors agreed to purchase from the Company, an aggregate of 1,166,667 shares of the Company's common stock, par value $0.001 per share, at $12.00 per share, for total gross proceeds of approximately $14,000,000. The transaction closed on December 28, 2017. Together with a private placement with three of its executive officers on December 22, 2017, the Company raised an aggregate of approximately $14.5 million in the two private placements in December 2017. On January 30, 2018 and February 5, 2018, the Company entered into Securities Purchase Agreements with certain investors, pursuant to which the Company agreed to sell, and the Investors agreed to purchase from the Company, an aggregate of 1,719,324 shares of the Company's common stock, par value $0.001 per share, at $17.80 per share, for total gross proceeds of approximately $30.6 million. The February 2018 Private Placement closed on February 5, 2018. On March 5, 2018, the Company filed a registration statement on Form S-3 for resale of up to 2,927,658 shares acquired on three private placement financing on December, 2017 and on February 2018. On April 9, 2018, the SEC declared the S-3 effective; and on April 11, 2018 we filed the requisite resale prospectus. On September 25, 2018, the Company entered into a Securities Purchase Agreement with Novartis Pharma AG, pursuant to which the Company agreed to sell, and the Investors agreed to purchase from the Company, an aggregate of 1,458,257 shares of the Company's common stock, par value $0.001 per share (the "Novartis Shares"), at $27.43 per share, for total gross proceeds of approximately $40 million. On October 10, 2018, the Company filed a registration statement on Form S-3 for resale of the Novartis Shares. On October 22, 2018, the SEC declared the S-3 effective. On October 23, 2018, we filed the requisite resale prospectus.

Recent Debt Financing

On January 19, 2019, SH SBM entered into a credit agreement (the "Credit Agreement") with China Merchants Bank, Shanghai Branch (the "Merchants Bank"). Pursuant to the Credit Agreement, the Merchants Bank agreed to extend credit of up to RMB 100 million (approximately $14.7 million) to SH SBM via revolving and/or one-time credit lines. The types of credit available under the Credit Agreement, include, but not limited to, working capital loans, trade financing, commercial draft acceptance, letters of guarantee and derivative transactions. The credit period under the Credit Agreement runs until December 30, 2019. As of Feb 20, 2019, around $3 million had been drawn down under the Credit Agreement.

Pursuant to the Credit Agreement, SH SBM will enter into a supplemental agreement with the Merchants Bank prior to the applicable drawdown that will set forth the terms of each borrowing thereunder (except for working capital loans), including principal, interest rate, term of loan and use of borrowing proceeds. With regard to working capital loans to be provided pursuant to the Credit Agreement, SH SBM shall submit a withdrawal application that includes the principal amount needed, purposes of the loan and a proposed quarterly interest rate and term of the loan for the Merchants Bank's review and approval. The terms approved by the bank will govern such working capital loans. The bank has the right to adjust the interest rate for working capital loans from time to time based on changes in national policy, changes in interest rate published by the People's Bank of China, credit market conditions and the bank's credit policies. Upon SH SBM's non-compliance with the agreed use of loan proceeds, the interest rate for the amount of loan proceeds improperly used will be the original rate plus 100% starting on the first day of such use. If SH SBM fails to pay a working capital loan on time, an extra 50% interest will be charged on the outstanding balances starting on the first day of such default.

Pursuant to a pledge agreement which became enforceable upon execution of the Credit Agreement, Cellular Biomedicine Group Ltd. (HK), a wholly owned subsidiary of the Company ("CBMG HK"), provided a guarantee of SH SBM's obligations under the Credit Agreement. In connection with such guarantee, CBMG HK deposited $17,000,000 into its account at the Merchants Bank for a 12-month period starting January 7, 2019 and also granted the Merchants Bank a security interest in the cash deposited.

As we continue to incur losses, achieving profitability is dependent upon the successful development of our cell therapy business and commercialization of our technology in research and development phase, which is a number of years in the future. Once that occurs, we will have to achieve a level of revenues adequate to support our cost structure. We may never achieve profitability, and unless and until we do, we will continue to need to raise additional capital. Management intends to fund future operations through additional debt or equity offerings, and may seek additional capital through arrangements with strategic partners or from other sources.

In order to finance our medium to long-term plans, we intend to rely upon external financing. This financing may be in the form of equity and or debt, in private placements and/or public offerings, or arrangements with private lenders. Our medium to long term capital needs involve the further development of our biopharmaceutical business, and may include, at management's discretion, new clinical trials for other indications, strategic partnerships, joint ventures, acquisition of licensing rights from new or current partners and/or expansion of our research and development programs. Furthermore, as our therapies pass through the clinical trial process and if they gain regulatory approval, we expect to expend significant resources on sales and marketing of our future products, services and therapies in order to finance.

Due to our short operating history and our early stage of development, particularly in our biopharmaceutical business, we may find it challenging to raise capital on terms that are acceptable to us, or at all. Furthermore, our negotiating position in the capital raising process may worsen as we consume our existing resources. Investor interest in a company such as ours is dependent on a wide array of factors, including the state of regulation of our industry in

China (e.g. the policies of MOH and the NMPA), the U.S. and other countries, political headwinds affecting our industry, the investment climate for issuers involved in businesses located or conducted within China, the risks associated with our corporate structure, risks relating to our partners, licensed intellectual property, as well as the condition of the global economy and financial markets in general. Additional equity financing may be dilutive to our stockholders; debt financing, if available, may involve significant cash payment obligations and covenants that restrict our ability to operate as a business; our stock price may not reach levels necessary to induce option or warrant exercises; and asset sales may not be possible on terms we consider acceptable. If we are unable to raise the capital necessary to meet our medium- and long-term liquidity needs, we may have to delay or discontinue certain clinical trials, the licensing, acquisition and/or development of cell therapy technologies, and/or the expansion of our biopharmaceutical business; or we may have to raise funds on terms that we consider unfavorable.

Off-Balance Sheet Transactions

We do not have any off-balance sheet arrangements except the lease and capital commitment described in “Contractual Obligations” below.

Contractual Obligations

We have various contractual obligations that will affect our liquidity. The following table sets forth our contractual obligations as of December 31, 2018.

	Payments due by period				
Contractual Obligations	Total	Less than 1 year	2-3 years	4-5 years	More than 5 years
Capital Commitment	$1,318,440	$1,318,440	$-	$-	$-
Operating Lease Obligations	19,933,728	2,815,534	5,183,165	4,988,993	6,946,036
Total	$21,252,168	$4,133,974	$5,183,165	$4,988,993	$6,946,036

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Exposure to credit, liquidity, interest rate and currency risks arises in the normal course of the Company's business. The Company's exposure to these risks and the financial risk management policies and practices used by the Company to manage these risks are described below.

Credit Risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The Company's credit risk is primarily attributable to cash at bank and receivables etc. Exposure to these credit risks are monitored by management on an ongoing basis.

The cash at bank of the Group is mainly held with well-known or state owned financial institutions, such as HSBC, Bank of China and China Merchant Bank etc. Management does not foresee any significant credit risks from these deposits and does not expect that these financial institutions may default and cause losses to the Company.

In respect of receivables, the Company does not obtain collateral from customers. The Company's exposure to credit risk is influenced mainly by the individual characteristics of each customer rather than the industry, country or area in which the customers operate and therefore significant concentrations of credit risk arise primarily when the Group has significant exposure to individual customers. As of December 31, 2018, 100% of the total accounts receivable was due from one customer.

The maximum exposure to credit risk is represented by the carrying amount of each financial asset in the balance sheet.

Interest Rate Risk

The Company's interest rate risk arises primarily from cash deposited at banks and the Company doesn't have any interest-bearing long-term payable/ borrowing, therefore the exposure to interest rate risk is limited.

Currency Risk

The Company is exposed to currency risk primarily from sales and purchases which give rise to receivables, payables that are denominated in a foreign currency (mainly RMB). The Company has adopted USD as its functional currency, thus the fluctuation of exchange rates between RMB and USD exposes the Company to currency risk.

The following table details the Company's exposure as of December 31, 2018 to currency risk arising from recognised assets or liabilities denominated in a currency other than the functional currency of the entity to which they relate. For presentation purposes, the amounts of the exposure are shown in USD translated using the spot rate as of December 31, 2018. Differences resulting from the translation of the financial statements of entities into the Company's presentation currency are excluded.

	Exposure to foreign currencies (Expressed in USD)

	As of December 31, 2018	
	RMB	USD
Cash and cash equivalents	8,824	17,142
Net exposure arising from recognised assets and liabilities	8,824	17,142

	As of December 31, 2018	
	increase/(decrease) in foreign exchange rates	Effect on net loss (Expressed in USD)
RMB (against USD)	5%	(416)
	-5%	416

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The following table indicates the instantaneous change in the Company's net loss that would arise if foreign exchange rates to which the Company has significant exposure at the end of the reporting period had changed at that date, assuming all other risk variables remained constant.

	increase/(decrease) in foreign exchange rates	Effect on net loss (Expressed in USD)
RMB (against USD)	5%	(416)
	-5%	416

Results of the analysis as presented in the above table represent an aggregation of the instantaneous effects on each of the Company's subsidiaries' net loss measured in the respective functional currencies, translated into USD at the exchange rate ruling at the end of the reporting period for presentation purposes.

The sensitivity analysis assumes that the change in foreign exchange rates had been applied to re-measure those financial instruments held by the Company which expose the Company to foreign currency risk at the end of the reporting period, including inter-company payables and receivables within the Company which are denominated in a currency other than the functional currencies of the lender or the borrower. The analysis excludes differences that would result from the translation of the financial statements of subsidiaries into the Company's presentation currency.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Attached hereto and filed as a part of this Annual Report on Form 10-K are our Consolidated Financial Statements, beginning on page F-1.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We have established disclosure controls and procedures, as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934. Our disclosure controls and procedures are designed to ensure that material information relating to us, including our consolidated subsidiaries, is made known to our principal executive officer and principal financial officer by others within our organization. Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures as of December 31, 2018 to ensure that the information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934 is accumulated and communicated to our management, including our principal executive officer and principal financial officer as appropriate, to allow timely decisions regarding required disclosure. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of December 31, 2018.

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Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2018, based on the criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2018. Our internal control over financial reporting as of December 31, 2018, has been audited and attested to by BDO China Shu Lun Pan Certified Public Accountants LLP, or BDO China, an independent registered public accounting firm, as stated in its report, which is included herein.

Changes in Internal Control over Financial Reporting

During the year ended December 31, 2018, there were no changes in our internal control over financial reporting that materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

As previously disclosed on a Current Report on Form 8-K filed on June 1, 2017, the Company authorized a share repurchase program (the "2017 Share Repurchase Program"), pursuant to which the Company may, from time to time, purchase shares of its common stock for an aggregate purchase price not to exceed $10 million under which approximately $6.52 million in shares of common stock were repurchased. On October 10, 2018, the Company commenced a share repurchase program (the "2018 Share Repurchase Program"), pursuant to which the Company may, from time to time, purchase shares of its common stock for an aggregate purchase price not to exceed approximately $8.48 million. It is contemplated that total shares to be repurchased under the 2017 and 2018 Share Repurchase Programs shall not exceed $15 million in the aggregate. The table below summarizes purchases made by or on behalf of the Company or affiliated purchasers as defined in Regulation S-K under the 2017 and 2018 Share Purchase Program during the year ended December 31, 2018.

Period	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced plans or programs	Maximum dollar value of shares that may yet be purchased under the plans or programs
Prior to 2018	426,794	$9.32	426,794	
January 1, 2018 ~ January 31, 2018	-	$-	-	
February 1, 2018 ~ February 28, 2018	-	$-	-	
	37,462	$19.10	37,462	

March 1, 2018 ~ March 31, 2018				
April 1, 2018 ~ April 30, 2018	17,984	$19.84	17,984	
May 1, 2018 ~ May 31, 2018	47,006	$18.97	47,006	
June 1, 2018 ~ June 30, 2018	31,522	$18.14	31,522	
July 1, 2018 ~ July 31, 2018	-	$-	-	
August 1, 2018 ~ August 31, 2018	-	$-	-	
September 1, 2018 ~ September 30, 2018	-	$-	-	
October 1, 2018 ~ October 31, 2018	144,038	$14.49	144,038	
November 1, 2018 ~ November 30, 2018	83,999	$17.24	83,999	
December 1, 2018 ~ December 31, 2018	212,694	$18.36	212,694	
Total	1,001,499	$13.93	1,001,499	1,046,335

PART III

Item 10. Directors, Executive Officers and Corporate Governance

We will file with the SEC a definitive Proxy Statement for our Annual Meeting of Stockholders (the “2018 Proxy Statement”) not later than 120 days after the fiscal year ended December 31, 2018. The information required by this item is incorporated herein by reference to the information contained in the 2018 Proxy Statement.

Item 11. Executive Compensation

The information required by this item is incorporated herein by reference to the information contained in the 2018 Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item is incorporated herein by reference to the information contained in the 2018 Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated herein by reference to the information contained in the 2018 Proxy Statement.

Item 14. Principal Accounting Fees and Services

The information required by this item is incorporated herein by reference to the information contained in the 2018 Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

Exhibit Number	Description
2.1	Plan of reorganization and exchange agreement (1)
2.2	Agreement and Plan of Merger, dated November 13, 2012 (2)
2.3	Amendment No. 1 to Agreement and Plan of Merger, dated January 15, 2013 (3)
2.4	Amendment No. 2 to Agreement and Plan of Merger, dated January 31, 2013 (4)
2.5	Amendment No. 3 to Agreement and Plan of Merger, dated February 5, 2013 (5)
3.1	Articles of Incorporation of Cellular Biomedicine Group, Inc.(22)
3.2	Amended and Restated Bylaws of Cellular Biomedicine Group, Inc.(23)
4.5	2011 Incentive Stock Option Plan (6)
4.6	Amended and Restated 2011 Incentive Stock Option Plan (7)
4.7	2013 Stock Incentive Plan (12)
4.8	2014 Stock Incentive Plan (13)
4.6	Amendment No. 1 to 2014 Stock Incentive Plan (20)
10.1	Purchase Agreement, dated September 10, 2013, by and between Cellular Biomedicine Group (Shanghai) Ltd. and Fisher Scientific Worldwide (Shanghai) Co., Ltd. (14)
10.2	Technical Service Contract, dated September 22, 2013, by and between Cellular Biomedicine Group (Shanghai) Ltd. and National Engineering Research Center of Tissue Engineering. (14)
10.3	Clinical Trial Agreement, dated November 6, 2013, by and between Cellular Biomedicine Group (Shanghai) Ltd. and Renji Hospital (14)
10.4	Clinical Trial Agreement, dated December 20, 2013, by and between Cellular Biomedicine Group (Shanghai) Ltd. and China Armed Police General Hospital(30)
10.5	Form of Subscription Agreement (8)
10.6	Employment Agreement with Bizuo (Tony) Liu, dated January 3, 2014 (9)
10.7	Framework Agreement by and among the Company, Agreen Biotech Co. Ltd. and its Shareholders, dated August 02, 2014 (10)
10.8	Technology Transfer Agreement by and between the Company and the General Hospital of the Chinese People's Liberation Army, dated February 4, 2015 (15)
10.9	Asset Purchase Agreement, dated June 8, 2015, by and among the Company, Blackbird BioFinance, LLC, Scott Antonia and Sam Shrivastava (11)
10.10	Patent Transfer Agreement, dated November 16, 2015, by and between CBMG Shanghai and China Pharmaceutical University (15)
10.11	Clinical Trial Agreement, dated December 15, 2015, by and between CBMG Shanghai and Renji Hospital (15)
10.12	Share Purchase Agreement, dated February 4, 2016, by and between the Company and Dangdai International Group Co., Limited (35)
10.13	Lease Agreement, dated January 1, 2017, by and between CBMG Shanghai and Shanghai Chuangtong Industrial Development Co., Ltd. (21)
10.14	Consulting agreement with Wen Tao (Steve) Liu, dated February 7, 2016 (16)
10.15	Clinical Trial Agreement, dated February 16, 2016, by and between CBMG Shanghai and Shanghai Tongji Hospital (16)
10.16	Agreement on Termination of Cooperation with Jilin Luhong Real Estate Development Co., Ltd. (17)
10.17	Lease agreement of office building located at Zone B, 2/F, Building No.7, Block C, Wuxi (Huishan) Life Science & Technology Industrial Park, 1699 Huishan Avenue, Wuxi, the P.R.C.(17)
10.18	Agreement, dated as of April 11, 2016, by and between the Company and Bizuo (Tony) Liu (18)

10.19	Letter Agreement, dated November 11, 2016, by and between the Company and Gang Ji (19)
10.20	Employment Agreement, dated March 3, 2017, by and between the Company and Bizuo (Tony) Liu (21)
10.21	Employment Agreement, dated March 3, 2017, by and between the Company and Andrew Chan (21)
10.22	Employment Agreement, dated March 3, 2017, by and between the Company and Yihong Yao (39)
10.23	Lease Agreement, dated December 1, 2018, by and between CBMG Shanghai and Shanghai Guilin Industrial Co., Ltd.*
10.24	Share Purchase Agreement, dated December 15, 2017, by and among the Company and its executive officers (24)
10.25	Share Purchase Agreement, dated December 26, 2017, by and among the Company and certain investors (25)

10.26	Registration Rights Agreement, dated January 30, 2018, by and among the Company, Wealth Map Holdings Limited, Earls Mill Limited, and Bosun S. Hau (26)
10.27	Securities Purchase Agreement, dated January 30, 2018, by and among the Company, Wealth Map Holdings Limited, Earls Mill Limited, and Bosun S. Hau (26)
10.28	Amendment No. 1 to Registration Rights Agreement, dated February 5, 2018, by and among the Company, Wealth Map Holdings Limited, Earls Mill Limited, Bosun S. Hau and Rui Zhang. (27)
10.29	Amendment No. 1 to Securities Purchase Agreement, dated February 5, 2018, by and among the Company, Wealth Map Holdings Limited, Earls Mill Limited, Bosun S. Hau and Rui Zhang.(27)
10.30	Registration Rights Agreement, dated September 26, 2018, by and between the Company and Novartis Pharma AG. (28)
10.31	License and Collaboration Agreement, dated September 25, 2018, by and among the Company, Novartis Pharma AG and other parties thereto. (28)
10.32	Securities Purchase Agreement, dated September 25, 2018, by and among the Company, Novartis Pharma AG and Shanghai Cellular Biopharmaceutical Group Ltd.(28)
10.33	License Agreement, dated October 2, 2018, by and among the Company and the U.S. Department of Health and Human Services, as represented by the National Cancer Institute, an Institute or Center of the National Institutes of Health (29)
10.34	Toll Manufacturing and Supply Agreement, dated December 21, 2018, by and among the Company, Novartis Pharma AG and other parties thereto. (29)
10.35	License Agreement, dated as of February 14, 2019, by and between the Company and Augusta University Research Institute, Inc.*†
14.1	Code of Ethics for EastBridge Investment Group Corporation (1)
21	Subsidiaries of the Company(34)
23.1	Consent of BDO China Shu Lun Pan Certified Public Accountants LLP *
31	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Chief Executive Officer and Chief Financial Officer*
32	Certifications Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, furnished herewith.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith.

† Confidential treatment is requested for portions of this exhibit pursuant to 17 CFR Section 240.246-2.

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1. Incorporated by reference filed with the Registration Statement on Form 10-SB filed with the Securities and Exchange Commission on October 30, 2006 (File No. 000-52282)

2. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on November 20, 2012 (File No. 000-52282)
3. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on January 22, 2013 (File No. 000-52282)
4. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on February 4, 2013 (File No. 000-52282)
5. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on February 12, 2013 (File No. 000-52282)
6. Incorporated by reference filed with the Registration Statement on Form S-8 filed with the Securities and Exchange Commission on March 7, 2012 (File No. 333-179974)
7. Incorporated by reference filed with the Form 10-K filed with the Securities and Exchange Commission on April 4, 2013 (File No. 000-52282)
8. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on December 16, 2013 (File No. 000-52282)
9. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on January 3, 2014 (File No. 000-52282)
10. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on October 2, 2014 (File No. 001-36498)
11. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on July 2, 2015 (File No. 001-36498)
12. Incorporated by reference filed with Schedule 14A filed with the Securities and Exchange Commission on November 21, 2013 (File No. 000-52282)
13. Incorporated by reference filed with Schedule 14A filed with the Securities and Exchange Commission on September 23, 2014 (File No. 001-36498)
14 Incorporated by reference filed with the Form 10-K filed with the Securities and Exchange Commission on April 15, 2014 (File No. 000-52282).
15 Incorporated by reference filed with the Form 10-K filed with the Securities and Exchange Commission on March 14, 2016 (File No. 001-36498).
16 Incorporated by reference filed with the Form 10-Q filed with the Securities and Exchange Commission on May 9, 2016 (File No. 001-36498).
17 Incorporated by reference filed with the Form 10-Q filed with the Securities and Exchange Commission on August 8, 2016 (File No. 001-36498).
18 Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on April 15, 2016 (File No. 000- 36498).
19 Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on November 15, 2016 (File No. 000- 36498).

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20 Incorporated by reference filed with Schedule 14A/A filed with the Securities and Exchange Commission on March 23, 2017 (File No. 001-36498)

21 Incorporated by reference filed with the Form 10-K filed with the Securities and Exchange Commission on March 13, 2017 (File No. 001-36498).

22 Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on March 4, 2013 (File No. 000-52282)

23 Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on September 21, 2016 (File No. 000-36498).

24 Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on December 21, 2017 (File No. 000-36498).

25 Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on December 28, 2017 (File No. 000-36498).

26. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on January 31, 2018 (File No. 000-36498).

27. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on February 5, 2018 (File No. 000-36498).

28. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on September 27, 2018 (File No. 000-36498).

29. Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on October 9, 2018 (File No. 000-36498).

Incorporated by reference filed with the Form 8-K filed with the Securities and Exchange Commission on December 28, 2018 (File No. 000-36498).

Item 16. Form 10-K Summary

Not applicable.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, there unto duly authorized.

Registrant	Cellular Biomedicine Group, Inc.
Date: February 19, 2019	By: /s/ Bizou (Tony) Liu Bizuo (Tony) Liu Chief Executive Officer and Chief Financial Officer (principal executive officer and financial and accounting officer)

Pursuant to the requirements of the Exchange Act, this report has been signed below by the following persons on behalf of the Company and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Terry A. Belmont Terry A. Belmont	Chairman of the Board of Directors	February 19, 2019
/s/ Bizuo (Tony) Liu Bizuo (Tony) Liu	Chief Executive Officer and Chief Financial Officer (principal executive officer and financial and accounting officer)	February 19, 2019
/s/ Wen Tao (Steve) Liu Wen Tao (Steve) Liu	Director	February 19, 2019
/s/ Hansheng Zhou Hansheng Zhou	Director	February 19, 2019
/s/ Nadir Patel Nadir Patel	Director	February 19, 2019
/s/ Chun Kwok Alan Au Chun Kwok Alan Au	Director	February 19, 2019
/s/ Gang Ji Gang Ji	Director	February 19, 2019
/s/ Bosun S. Hau Bosun S. Hau	Director	February 19, 2019

CELLULAR BIOMEDICINE GROUP, INC.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Cellular Biomedicine Group, Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Cellular Biomedicine Group, Inc. and its subsidiaries and variable interest entities (the "Company") as of December 31, 2018 and 2017 and the related consolidated statements of operations and comprehensive loss, changes in stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") and our report dated February 19, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ BDO China Shu Lun Pan Certified Public Accountants LLP

We have served as the Company's auditor since 2015.

Shenzhen, the People's Republic of China
February 19, 2019

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Cellular Biomedicine Group, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Cellular Biomedicine Group, Inc. and its subsidiaries and variable interest entities (the "Company") as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (the "COSO criteria"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, the related consolidated statements of operations and comprehensive loss, changes in stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and our report dated February 19, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Item 9A, Controls and Procedures, Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ BDO China Shu Lun Pan Certified Public Accountants LLP

Shenzhen, the People's Republic of China
February 19, 2019

CELLULAR BIOMEDICINE GROUP, INC.
CONSOLIDATED BALANCE SHEETS

	December 31, 2018	December 31, 2017 (note 18)
Assets		
Cash and cash equivalents	$52,812,880	$21,568,422
Accounts receivable, less allowance for doubtful amounts of $94,868 and $10,789 as of December 31, 2018 and December 31, 2017, respectively	787	202,887
Other receivables	101,909	170,842
Prepaid expenses	1,692,135	1,852,695
Total current assets	54,607,711	23,794,846
Investments	240,000	269,424
Property, plant and equipment, net	15,193,761	12,973,342
Goodwill	7,678,789	7,678,789
Intangibles, net	7,970,692	12,419,692
Long-term prepaid expenses and other assets	5,952,193	4,026,203
Total assets (1)	$91,643,146	$61,162,296
Liabilities and Stockholders' Equity		
Liabilities:		
Accounts payable	$422,752	$225,287
Accrued expenses	1,878,926	1,097,327
Taxes payable	28,950	28,875
Other current liabilities	3,836,308	2,324,632
Total current liabilities	6,166,936	3,676,121
Other non-current liabilities	257,818	183,649
Total liabilities (1)	6,424,754	3,859,770
Commitments and Contingencies (note 12)		
Preferred stock, par value $.001, 50,000,000 shares authorized; none issued and outstanding as of December 31, 2018 and 2017, respectively	-	-
Common stock, par value $.001, 300,000,000 shares authorized;		

19,120,781 and 15,615,558 issued; and 18,119,282 and 15,188,764 outstanding, as of December 31, 2018 and 2017, respectively	19,121	15,616
Treasury stock at cost; 1,001,499 and 426,794 shares of common stock as of December 31, 2018 and December 31, 2017, respectively	(13,953,666)	(3,977,929)
Additional paid in capital	250,604,618	172,691,339
Accumulated deficit	(149,982,489)	(111,036,997)
Accumulated other comprehensive loss	(1,469,192)	(389,503)
Total stockholders' equity	85,218,392	57,302,526
Total liabilities and stockholders' equity	$91,643,146	$61,162,296

(1) The Company’s consolidated assets as of December 31, 2018 and 2017 included $24,823,137 and $21,775,087, respectively, of assets of variable interest entities, or VIEs, that can only be used to settle obligations of the VIEs. Each of the following amounts represent the balances as of December 31, 2018 and 2017, respectively. These assets include cash and cash equivalents of $2,376,974 and $2,337,173; other receivables of $61,722 and $61,735; prepaid expenses of $1,497,072 and $1,750,509; property, plant and equipment, net, of $14,280,949 and $12,477,315; intangibles of $1,412,375 and $1,516,449; and long-term prepaid expenses and other assets of $5,194,045 and $3,631,906. The Company’s consolidated liabilities as of December 31, 2018 and 2017 included $5,117,239 and $2,688,520, respectively, of liabilities of the VIEs whose creditors have no recourse to the Company. These liabilities include accounts payable of $359,980 and $181,231; other payables of $3,125,504 and $1,631,582; payroll accrual of $1,367,658 and $682,248, which mainly includes bonus accrual of $1,358,709 and $673,443; deferred income of $6,280 and $9,810; and other non-current liabilities of $257,817 and $183,649. See further description in Note 4, Variable Interest Entities.

The accompanying notes are an integral part of these consolidated financial statements.

CELLULAR BIOMEDICINE GROUP, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

	For the Year Ended December 31,		
	2018	2017	2016
Net sales and revenue	$224,403	$336,817	$627,930
Operating expenses:			
Cost of sales	135,761	162,218	860,417
General and administrative	13,220,757	12,780,483	11,670,506
Selling and marketing	308,830	360,766	425,040
Research and development	24,150,480	14,609,917	11,475,587
Impairment on non-current assets	2,914,320	-	4,611,714
Total operating expenses	40,730,148	27,913,384	29,043,264
Operating loss	(40,505,745)	(27,576,567)	(28,415,334)
Other income:			
Interest income	392,328	133,621	78,943
Other income	1,172,879	1,955,086	132,108
Total other income	1,565,207	2,088,707	211,051
Loss before taxes	(38,940,538)	(25,487,860)	(28,204,283)
Income taxes provision	(4,954)	(2,450)	(4,093)
Net loss	$(38,945,492)	$(25,490,310)	$(28,208,376)
Other comprehensive income (loss):			
Cumulative translation adjustment	(1,079,689)	967,189	(743,271)
Unrealized gain (loss) on investments, net of tax	-	(240,000)	5,300,633
Reclassification adjustments, net of tax, in connection with other-than-temporary impairment of investments	-	-	(5,557,939)
Total other comprehensive income (loss):	(1,079,689)	727,189	(1,000,577)
Comprehensive loss	$(40,025,181)	$(24,763,121)	$(29,208,953)
Net loss per share:			
Basic and diluted	$(2.20)	$(1.78)	$(2.09)
Weighted average common shares outstanding:			
Basic and diluted	17,741,104	14,345,604	13,507,408

The accompanying notes are an integral part of these consolidated financial statements.

CELLULAR BIOMEDICINE GROUP, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY

	Common Stock		Preferred Stock		Treasury Stock		Additional Paid-in	Accumulated	Acc Oth Co
	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Deficit	(L
Balance at December 31, 2015	11,711,645	11,711	-	-	-	-	103,807,651	(57,338,311)	(1
Common stock issued with PPM and other financing	2,348,888	2,349	-	-	-	-	42,397,525	-	-
Restricted stock grants	24,660	25	-	-	-	-	709,472	-	-
Accrual of stock options	-	-	-	-	-	-	4,742,920	-	-
Exercise of stock options	196,185	196	-	-	-	-	885,484	-	-
Unrealized loss on investments, net of tax	-	-	-	-	-	-	-	-	5,
Reclassification adjustments, net of tax, in connection with other-than-temporary impairment of investments	-	-	-	-	-	-	-	-	(5
Foreign currency translation	-	-	-	-	-	-	-	-	(7
Net loss	-	-	-	-	-	-	-	(28,208,376)	-
Balance at December 31, 2016	14,281,378	14,281	-	-	-	-	152,543,052	(85,546,687)	(1
	1,208,334	1,208	-	-	-	-	14,494,832	-	-

Common stock issued with PPM									
Restricted stock grants	68,446	69	-	-	-	-	832,950	-	-
Accrual of stock options	-	-	-	-	-	-	4,512,192	-	-
Exercise of stock options	57,400	58	-	-	-	-	308,313	-	-
Treasury stock purchase	-	-	-	-	(426,794)	(3,977,929)	-	-	-
Unrealized loss on investments, net of tax	-	-	-	-	-	-	-	-	(2
Foreign currency translation	-	-	-	-	-	-	-	-	96
Net loss	-	-	-	-	-	-	-	(25,490,310)	-
Balance at December 31, 2017	15,615,558	15,616	-	-	(426,794)	(3,977,929)	172,691,339	(111,036,997)	(3
Common stock issued with PPM	3,177,581	3,177	-	-	-	-	70,347,996	-	-
Restricted stock grants	91,713	92	-	-	-	-	1,642,228	-	-
Accrual of stock options	-	-	-	-	-	-	3,184,425	-	-
Exercise of stock options	235,929	236	-	-	-	-	2,738,630	-	-
Treasury stock purchase	-	-	-	-	(574,705)	(9,975,737)	-	-	-
Foreign currency translation	-	-	-	-	-	-	-	-	(1
Net loss	-	-	-	-	-	-	-	(38,945,492)	-
Balance at December 31, 2018	19,120,781	$19,121	-	$-	(1,001,499)	$(13,953,666)	$250,604,618	$(149,982,489)	$(

The accompanying notes are an integral part of these consolidated financial statements.

CELLULAR BIOMEDICINE GROUP, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the Year Ended December 31,		
	2018	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$(38,945,492)	$(25,490,310)	$(28,208,376)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	5,049,523	2,985,963	2,635,001
Loss on disposal of assets	4,957	317	2,156
Stock based compensation expense	4,826,745	5,345,211	5,452,417
Other than temporary impairment on investments	29,424	-	4,611,714
Impairment on intangible assets	2,884,896	-	-
Interest from six-month deposits with the banks	(175,479)	-	-
Reversal of inventory provision	-	-	(115,391)
Allowance for doubtful account	84,622	-	10,163
Changes in operating assets and liabilities:			
Accounts receivable	107,263	(160,628)	537,155
Other receivables	66,108	(467,985)	(156,672)
Inventory	-	-	514,734
Prepaid expenses	68,435	(812,675)	(669,598)
Taxes recoverable	-	-	150,082
Long-term prepaid expenses and other assets	(538,349)	(1,005,029)	(643,673)
Accounts payable	133,740	(814)	(28,205)
Accrued expenses	816,936	(118,968)	356,420
Other current liabilities	390,181	1,339,866	(640,573)
Taxes payable	75	-	28,875
Other non-current liabilities	83,416	(208,340)	296,036
Net cash used in operating activities	(25,112,999)	(18,593,392)	(15,867,735)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Proceeds from disposal of assets	1,625	-	-
Withdrawing six-month deposits with the banks	10,175,479	-	-
Putting six-month deposits with the banks	(10,000,000)	-	-
Purchases of intangible assets	(196,836)	(23,734)	(56,519)
Purchases of property, plant and equipment	(6,589,493)	(10,169,134)	(2,676,888)

Net cash used in investing activities	(6,609,225)	(10,192,868)	(2,733,407)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Net proceeds from the issuance of common stock	70,351,173	14,496,040	42,399,874
Proceeds from exercise of stock options	2,738,866	308,371	885,680
Repurchase of treasury stock	(9,975,737)	(3,977,929)	-
Net cash provided by financing activities	63,114,302	10,826,482	43,285,554
EFFECT OF EXCHANGE RATE CHANGES ON CASH	(147,620)	275,768	(316,577)
INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	31,244,458	(17,684,010)	24,367,835
CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD	21,568,422	39,252,432	14,884,597
CASH AND CASH EQUIVALENTS, END OF PERIOD	$52,812,880	$21,568,422	$39,252,432
SUPPLEMENTAL CASH FLOW INFORMATION			
Cash paid for income taxes	$4,879	$2,450	$6,705

The accompanying notes are an integral part of these consolidated financial statements.

NOTE 1 – DESCRIPTION OF BUSINESS

As used in this report, "we", "us", "our", "CBMG", "Company" or "our company" refers to Cellular Biomedicine Group, Inc. and, unless the context otherwise requires, all of its subsidiaries.

Overview

Cellular Biomedicine Group, Inc. is a clinical stage biopharmaceutical company, committed to developing therapies for cancer and degenerative diseases utilizing proprietary cell-based technologies. Our focus is to reduce the aggregate cost and ensure quality products of cell therapies by leveraging our innovative manufacturing capabilities and strong ability to process optimization to development of our internal proprietary cell therapy based pipelines and our ability to partner with leading cell therapy companies seeking manufacturing capabilities for global collaborative partnerships. CBMG is headquartered in New York, New York, it’s Research & Development facilities are based in Gaithersburg, Maryland and Shanghai, China, and its manufacturing facilities are based in China in the cities of Shanghai and Wuxi.

The manufacturing and delivery of cell therapies involve complex, integrated processes, comprised of harvesting T cells from patients, T cell isolation, activation, viral vector transduction and GMP grade purification . We are using a semi-automated, fully closed system and self-made high quality viral vector for cell therapy manufacturing, which enables us to reduce the aggregate cost of cell therapies. Additionally, this system has the ability to scale for commercial supply at an economical cost.

Our technology includes two major platforms: (i) Immune cell therapy for treatment of a broad range of cancer indications comprised of technologies in Chimeric Antigen Receptor modified T cells ("CAR-T"), genetic modified T-cell receptors (“TCRs”), next generation neoantigen-reactive tumor infiltrating lymphocyte (“TIL”), and (ii) human adipose-derived mesenchymal progenitor cells ("haMPC") for treatment of joint diseases. We expect to carry out clinical studies leading to the eventual approval by the NMPA of our products through Biologics License Application ("BLA") filings and authorized clinical centers throughout Greater China. We also plan to conduct clinical studies in the United States that could potentially lead to FDA approval of our solid tumor clinical assets.

Our primary target market is China, where we believe that our cell-based therapies will be able to help patients with high unmet medical needs. We are focused on developing and marketing safe and effective cell-based therapies to treat cancer and joint diseases. We have developed proprietary technologies and know-how in our cell therapy platforms. We are conducting clinical studies in China with our stem cell based therapies to treat knee osteoarthritis (“KOA”). On December 2017, the Chinese government issued trial guidelines concerning the development and testing of cell therapy products in China, which provides that all cell therapy products are treated as “drug” from a regulatory perspective, and require official approval for INDs. Prior to this revised regulation in December 2017, we have completed a Phase IIb autologous haMPC KOA clinical study and released the promising results. Led by Shanghai Renji Hospital, one of the largest teaching hospitals in China, we completed a Phase I clinical trial of our off-the-shelf allogeneic haMPC (AlloJoin™) therapy for treating KOA patients. We also completed and presented the Allojoin™ Phase I 48-week data in China, and have been approved by NMPA to initiate a Phase II clinical trial following the filing of CBMG's IND application for AlloJoin® for KOA. CBMG’s IND application is the first stem cell drug application to be approved by NMPA for a Phase II KOA clinical trial since the release of the updated regulation on cell therapy.

In addition to our own internal pipelinse, we have initiated successful partnerships with other cell therapy focused companies as it pertains to their technology and platform’s market access into the Chinese market. We believe that our focus on process improvement and creating cost savings on cell therapy manufacturing will enable us to collaborate with those firms as they enter into the Chinese market.

Prior to September 2018, CBMG has been developing its own anti-CD19 CAR-T cell therapy in B-cell non-Hodgkin lymphoma ("NHL") and adult acute lymphoblastic leukemia (“ALL”) and had already initiated IND applications in China. On September 25, 2018, we entered into a strategic licensing and collaboration agreement with Novartis to manufacture and supply their CAR-T cell therapy Kymriah® (tisagenlecleucel) in China. As part of the deal, Novartis took approximately a 9% equity stake in CBMG, and CBMG is discontinuing development of its own anti-CD19 CAR-T cell therapy. This collaboration with Novartis reflects our shared commitment to bringing the first marketed CAR-T cell therapy product, Kymriah®, currently approved in the US, EU and Canada for two difficult-to-treat cancers, to China where the number of patients remains the highest in the world. We continue to develop cell therapies targeting other than CD19 on our own and Novartis has the first right of negotiation on these developments. The CBMG oncology pipeline includes CAR-T targeting CD20-, CD22- and B-cell maturation antigen (BCMA), NKG2D, AFP TCR and TIL. We are striving to build competitive research capabilities, a cutting edge translational medicine unit, along with a well-established cellular manufacturing capability and ample capacity, to support Kymriah® in China and our development of cell therapy products. We expect to initiate first in-human clinical trials for multiple CAR-T and TCR-T programs in 2019.

Corporate History

Headquartered in New York, the Company is a Delaware biopharmaceutical company focused on developing treatment for cancer and orthopedic diseases for patients in China. The Company started its regenerative medicine business in China in 2009 and expanded to CAR-T therapies in 2014.

NOTE 2 – BASIS OF PRESENTATION

The consolidated financial statements include the financial statements of the Company and all of its subsidiaries and variable interest entities. All significant inter-company transactions and balances are eliminated upon consolidation. The consolidated financial statements have been prepared in accordance with the accounting principles generally accepted in the United States of America ("GAAP").

NOTE 3 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Significant accounting policies are as follows:

Principles of Consolidation

The consolidated financial statements have been prepared in conformity with GAAP, and reflect the accounts and operations of the Company and its subsidiaries, beginning with the date of their respective acquisition. In accordance with the provisions of Financial Accounting Standards Board ("FASB"), Accounting Standards Codification ("ASC") Topic 810, or ASC 810, Consolidation, the Company consolidates any variable interest entity, or VIE, of which it is the primary beneficiary. The typical condition for a controlling financial interest ownership is holding a majority of the voting interests of an entity; however, a controlling financial interest may also exist in entities, such as variable interest entities, through arrangements that do not involve controlling voting interests. ASC 810 requires a variable interest holder to consolidate a VIE if that party has the power to direct the activities of a VIE that most significantly impact the VIE's economic performance, and the obligation to absorb losses of the VIE that could potentially be significant to the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE. The Company does not consolidate a VIE in which it has a majority ownership interest when the Company is not considered the primary beneficiary. The Company has determined that it is the primary beneficiary in a VIE—refer to Note 4, Variable Interest Entity. The Company evaluates its relationships with the VIE on an ongoing basis to ensure that it continues to be the primary beneficiary. All intercompany transactions and balances have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements.

These estimates and assumptions also affect the reported amounts of revenues, costs and expenses during the reporting period. Management evaluates these estimates and assumptions on a regular basis. Significant accounting estimates reflected in the Company's consolidated financial statements include inventory valuation, account receivable valuation, useful lives of property, plant and equipment and acquired intangibles, the valuation allowance for deferred income tax assets, valuation of goodwill, valuation of long-lived assets and share-based compensation expense. Actual results could materially differ from those estimates.

Revenue Recognition

Revenues consist mainly of cell banking services as well as cell therapy technology services with customers. The Company evaluates the separate performance obligation(s) under each contract, allocates the transaction price to each performance obligation considering the estimated stand-alone selling prices of the services and recognizes revenue upon the satisfaction of such obligations over time or at a point in time dependent on the satisfaction of one of the following criteria: (1) the customer simultaneously receives and consumes the economic benefits provided by the vendor's performance (2) the vendor creates or enhances an asset controlled by the customer (3) the vendor's performance does not create an asset for which the vendor has an alternative use, and the vendor has an enforceable right to payment for performance completed to date. Revenue from rendering of services is measured at the fair value of the consideration received or receivable under the contract or agreement. Revenue from cell therapy technology services is recognized in profit or loss at the point when customers simultaneously receive and consume the services. Revenue from cell banking storage is recognized in profit or loss on a straight-line basis over the storage period.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of three months or less to be cash equivalents. At December 31, 2018 and 2017, respectively, cash and cash equivalents include cash on hand and cash in the bank. At times, cash deposits may exceed government-insured limits.

Accounts Receivable

Accounts receivable represent amounts earned but not collected in connection with the Company's sales of goods or services as of December 31, 2018 and 2017. Account receivables are carried at their estimated collectible amounts.

The Company follows the allowance method of recognizing uncollectible accounts receivable. The Company recognizes bad debt expense based on specifically identified customers and invoices that are anticipated to be uncollectable. At December 31, 2018 and 2017, allowance of $94,868 and $10,789 was provided for debtors of certain customers as those debts are unrecoverable from customers, respectively.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Depreciation is provided for on the straight-line method over the estimated useful lives of the assets ranging from three to ten years and begins when the related assets are placed in service. Maintenance and repairs that neither materially add to the value of the property nor appreciably prolong its life are charged to expense as incurred. Betterments or renewals are capitalized when incurred. Plant, property and equipment are reviewed each year to determine whether any events or circumstances indicate that the carrying amount of the assets may not be recoverable. We assess the recoverability of the asset by comparing the projected undiscounted net cash flows associated with the related assets over the estimated remaining life against the respective carrying value.

For the years ended December 31, 2018, 2017 and 2016, depreciation expense was $3,360,517, $1,195,705 and $850,793, respectively.

Goodwill and Other Intangibles

Goodwill represents the excess of the cost of assets acquired over the fair value of the net assets at the date of acquisition. Intangible assets represent the fair value of separately recognizable intangible assets acquired in connection with the Company's business combinations. The Company evaluates its goodwill and other intangibles for impairment on an annual basis or whenever events or circumstances indicate that impairment may have occurred.

The carrying amount of the goodwill at December 31, 2018 and 2017 represents the cost arising from the business combinations in previous years and no impairment on goodwill was recognized for the years ended December 31, 2018 and 2017.

Treasury Stock

The treasury stock is recorded and carried at their repurchase cost. The Company recorded the entire purchase price of the treasury stock as a reduction of equity. A gain or loss will be determined when treasury stock is reissued or retired, and the original issue price and book value of the stock do not enter into the accounting. Additional paid-in capital from treasury stock is credited for gains and debited for losses when treasury stock is reissued at prices that differ from the repurchase cost.

Government Grants

Government grants are recognized in the balance sheet initially when there is reasonable assurance that they will be received and that the enterprise will comply with the conditions attached to them. When the Company received the government grants but the conditions attached to the grants have not been fulfilled, such government grants are deferred and recorded as deferred income. The classification of short-term or long-term liabilities is depended on the

management's expectation of when the conditions attached to the grant can be fulfilled. Grants that compensate the Company for expenses incurred are recognized as other income in statement of income on a systematic basis in the same periods in which the expenses are incurred.

For the year ended December 31, 2018, 2017 and 2016, the Company received government grants of $1,105,272, $1,905,213 and $422,839 for purpose of R&D and related capital expenditure, respectively. Government subsidies recognized as other income in the statement of income for the year ended December 31, 2018, 2017 and 2016 were $1,119,827, $2,077,486 and $78,542, respectively.

Valuation of long-lived asset

The Company reviews the carrying value of long-lived assets to be held and used, including other intangible assets subject to amortization, when events and circumstances warrants such a review. The carrying value of a long-lived asset is considered impaired when the anticipated undiscounted cash flow from such asset is separately identifiable and is less than its carrying value. In that event, a loss is recognized based on the amount by which the carrying value exceeds the fair market value of the long-lived asset and intangible assets. Fair market value is determined primarily using the anticipated cash flows discounted at a rate commensurate with the risk involved. Losses on long-lived assets and intangible assets to be disposed are determined in a similar manner, except that fair market values are reduced for the cost to dispose.

Income Taxes

Income taxes are accounted for using the asset and liability method. Under this method, deferred income tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which these temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance would be provided for those deferred tax assets if it is more likely than not that the related benefit will not be realized.

A full valuation allowance has been established against all net deferred tax assets as of December 31, 2018 and 2017 based on estimates of recoverability. While the Company has optimistic plans for its business strategy, we determined that such a valuation allowance was necessary given the current and expected near term losses and the uncertainty with respect to the Company’s ability to generate sufficient profits from its business model.

Share-Based Compensation

The Company periodically uses stock-based awards, consisting of shares of common stock and stock options, to compensate certain officers and consultants. Shares are expensed on a straight line basis over the requisite service period based on the grant date fair value, net of estimated forfeitures, if any. We currently use the Black-Scholes option-pricing model to estimate the fair value of our stock-based payment awards. This model requires the input of highly subjective assumptions, including the fair value of the underlying common stock, the expected volatility of the price of our common stock, risk-free interest rates, the expected term of the option and the expected dividend yield of our common stock. These estimates involve inherent uncertainties and the application of management’s judgment. If factors change and different assumptions are used, our stock-based compensation expense could be materially different in the future. These assumptions are estimated as follows:

Fair Value of Our Common Stock — Our common stock is valued by reference to the publicly-traded price of our common stock.

Expected Volatility — Prior to the Eastbridge merger, we did not have a history of market prices for our common stock and since the merger, we do not have what we consider a sufficiently active and readily traded market for our common stock to use historical market prices for our common stock to estimate volatility. Accordingly, we estimate the expected stock price volatility for our common stock by taking the median historical stock price volatility for industry peers based on daily price observations over a period equivalent to the expected term of the stock option grants. Industry peers consist of other public companies in the stem cell industry similar in size, stage of life cycle and financial leverage. We intend to continue to consistently apply this process using the same or similar public

companies until a sufficient amount of historical information regarding the volatility of our own common stock share price becomes available.

Risk-Free Interest Rate — The risk-free interest rate assumption is based on observed interest rates appropriate for the expected terms of our awards. The risk-free interest rate assumption is based on the yields of U.S. Treasury securities with maturities similar to the expected term of the options for each option group.

Expected Term — The expected term represents the period that our stock-based awards are expected to be outstanding. The expected terms of the awards are based on a simplified method which defines the life as the average of the contractual term of the options and the weighted-average vesting period for all open tranches.

Expected Dividend Yield — We have never declared or paid any cash dividends and do not presently plan to pay cash dividends in the foreseeable future. Consequently, we used an expected dividend yield of zero.

In addition to the assumptions used in the Black-Scholes option-pricing model, the amount of stock option expense we recognize in our consolidated statements of operations includes an estimate of stock option forfeitures. We estimate our forfeiture rate based on an analysis of our actual forfeitures and will continue to evaluate the appropriateness of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover and other factors. Changes in the estimated forfeiture rate can have a significant impact on our stock-based compensation expense as the cumulative effect of adjusting the rate is recognized in the period the forfeiture estimate is changed. If a revised forfeiture rate is higher than the previously estimated forfeiture rate, an adjustment is made that will result in a decrease to the stock-based compensation expense recognized in the consolidated financial statements. If a revised forfeiture rate is lower than the previously estimated forfeiture rate, an adjustment is made that will result in an increase to the stock-based compensation expense recognized in our consolidated financial statements.

Fair Value of Financial Instruments

Under the FASB's authoritative guidance on fair value measurements, fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In determining the fair value, the Company uses various methods including market, income and cost approaches. Based on these approaches, the Company often utilizes certain assumptions that market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique. These inputs can be readily observable, market corroborated or generally unobservable inputs. The Company uses valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. Based on observability of the inputs used in the valuation techniques, the Company is required to provide the following information according to the fair value hierarchy. The fair value hierarchy ranks the quality and reliability of the information used to determine fair values. Financial assets and liabilities carried at fair value are classified and disclosed in one of the following three categories:

Level 1: Valuations for assets and liabilities traded in active exchange markets. Valuations are obtained from readily available pricing sources for market transactions involving identical assets or liabilities.

Level 2: Valuations for assets and liabilities traded in less active dealer or broker markets. Valuations are obtained from third party pricing services for identical or similar assets or liabilities.

Level 3: Valuations for assets and liabilities that are derived from other valuation methodologies, including option pricing models, discounted cash flow models and similar techniques, and not based on market exchange, dealer or broker traded transactions. Level 3 valuations incorporate certain unobservable assumptions and projections in determining the fair value assigned to such assets.

All transfers between fair value hierarchy levels are recognized by the Company at the end of each reporting period. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, an investment's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement in its entirety requires judgment, and considers factors specific to the investment. The inputs or methodology used for valuing financial instruments are not necessarily an indication of the risks associated with investment in those instruments.

The carrying amounts of other financial instruments, including cash, accounts receivable, accounts payable and accrued liabilities, income tax payable and related party payable approximate fair value due to their short maturities.

Investments