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

FORM 20-F

(Mark One)

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

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

For the fiscal year ended December 31, 2016

OR

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

For the transition period from _____ to _____

OR

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

Date of event requiring this shell company report: _____

Commission file number 000-50112

REPLICEL LIFE SCIENCES INC.

(Exact name of Registrant as specified in its charter)

Not Applicable

(Translation of Registrant's name into English)

British Columbia, Canada

(Jurisdiction of incorporation or organization)

**Suite 900 – 570 Granville Street
Vancouver, British Columbia, Canada V6C 3P1**
(Address of principal executive offices)

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(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class
Not Applicable

Name of each exchange on which registered
Not Applicable

Securities registered or to be registered pursuant to Section 12(g) of the Act.

Common Shares Without Par Value
(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.

Not Applicable
(Title of Class)

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report: **15,657,530 common shares as of December 31, 2016**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

YES NO

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

(Not applicable to the registrant at this time) YES NO

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP

International Financial Reporting Standards as issued
by the International Accounting Standards Board

Other

If “Other” has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.
 Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
 YES NO

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court.
 YES NO

GENERAL INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

This annual report on Form 20-F contains forward-looking statements. Forward-looking statements are projections in respect of future events or our future financial performance. In some cases, you can identify forward-looking statements by terminology such as “may”, “should”, “intend”, “expect”, “plan”, “anticipate”, “believe”, “estimate”, “predict”, “potential”, or “continue”, or the negative of these terms or other comparable terminology. Forward-looking information presented in such statements or disclosures may, among other things, include:

- our belief that chronic tendon injuries resulting from sports-related or occupational overuse is a significant unmet medical need;
- our belief that RCT-01 has advantages over current treatments such as the use of non-steroidal anti-inflammatory medication or corticosteroids which are limited in efficacy;
- our interpretation of the outcomes from a phase 1/2 clinical trial to test the safety and efficacy of injections of RCT-01 on patients suffering from chronic achilles tendinosis in Canada and the details of this trial;
- our interpretation of the data from a phase 1 clinical trial to test the safety and certain biological outcomes of injections of RCS-01 in patients with aging and sun-damaged skin;
- our interpretation of the data from a phase 1 clinical trial to test the safety and efficacy of injections of RCH-01 on patients suffering from androgenetic alopecia;
- our belief that the RCI-02 dermal injector device will have applications in certain dermatological procedures and preparation for its commercialization is expected to be launched as soon as funds permit including building of commercial/clinical-grade prototypes, validation testing of such prototypes and filing of the regulatory submissions seeking a CE mark to market the device in Europe;
- our belief as to the potential of our products;
- our assumption that our agreements and working relationship with key service providers (e.g., contract manufacturer, suppliers, contract research organizations, etc.) and licensees/partners will continue in good standing;
- our forecasts of expenditures;
- our expectations regarding our ability to raise capital;
- our business outlook;
- our plans and objectives of management for future operations; and
- our anticipated financial performance.

Various assumptions or factors are typically applied in drawing conclusions or making the forecasts or projections set out in forward-looking information. Those assumptions and factors are based on information currently available to our company, including information obtained from third-party industry analysts and other third party sources. In some instances, material assumptions and factors are presented or discussed elsewhere in this annual report in connection with the statements or disclosure containing the forward-looking information. You are cautioned that the following list of material factors and assumptions is not exhaustive. The factors and assumptions include, but are not limited to, our assumption that there be:

- no unforeseen changes in the legislative and operating framework for the business of our company;
- a stable competitive environment; and
- no significant event occurring outside the ordinary course of business such as a natural disaster or other calamity.

These statements are only predictions and involve known and unknown risks, uncertainties and other factors, including the risks set out in the section entitled “Risk Factors” commencing on page 8 which may cause our or our industry’s actual results, levels of activity or performance to be materially different from any future results, levels of activity or performance expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to the following risks:

- negative results from our clinical trials;
- the effects of government regulation on our business;
- the viability and marketability of our technologies;
- the development of superior technology by our competitors;
- the failure of consumers and the medical community to accept our technology as safe and effective;
- risks associated with our ability to obtain and protect rights to our intellectual property;
- risks and uncertainties associated with our ability to raise additional capital; and
- other factors beyond our control.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity or performance. Further, any forward-looking statement speaks only as of the date on which such statement is made, and, except as required by applicable law, we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for management to predict all of such factors and to assess in advance the impact of such factors on our 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 statement.

As used in this annual report, the terms “we”, “us”, “our”, and “RepliCel” mean RepliCel Life Sciences Inc., a British Columbia, Canada, corporation, and our wholly-owned subsidiary, TrichoScience Innovations Inc., as applicable. All references to common shares are to the common shares of our company, unless otherwise stated. Information on our website, www.replicel.com, is not incorporated by reference into this annual report.

APPLICATION OF INTERNATIONAL FINANCIAL REPORTING STANDARDS

Effective from January 1, 2011, we adopted International Financial Reporting Standards (“IFRS”), as issued by the International Accounting Standards Board. Unless otherwise stated, all information presented herein has been prepared in accordance with IFRS and all prior period amounts have been reclassified to conform with IFRS.

CURRENCY

Unless otherwise stated, "\$", when used in this annual report on Form 20-F, refers to Canadian dollars and US\$ refers to United States dollars.

REVERSE STOCK SPLIT

Effective August 10, 2016, we completed a one (1) for ten (10) reverse stock split of our issued and outstanding common shares. All common share amounts in this annual report on Form 20-F reflect the reverse split.

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PART 1

ITEM 1 Identity of Directors, Senior Management and Advisers

Not applicable.

ITEM 2 Offer Statistics and Expected Timetable

Not applicable.

ITEM 3 Key Information

A. Selected Financial Data

The following financial data summarizes selected financial data for our company prepared in accordance with IFRS for the five fiscal years ended December 31, 2016, 2015, 2014, 2013 and 2012. The information presented below for the five year period ended December 31, 2016, 2015, 2014, 2013 and 2012 is derived from our financial statements which were examined by our independent auditor. The information set forth below should be read in conjunction with our audited annual financial statements and related notes thereto included in this annual report, and with the information appearing under the heading “Item 5 – Operating and Financial Review and Prospects”.

Selected Financial Data
(Stated in Canadian Dollars – Calculated in accordance with IFRS)

	Year ended Dec. 31, 2016 (audited)	Year ended Dec. 31, 2015 (audited)	Year ended Dec. 31, 2014 (audited)	Year ended Dec. 31, 2013 (audited)	Year ended Dec. 31, 2012 (audited)
Net sales or operating revenues	-	-	-	\$4,120,400	-
Total expenses	\$4,287,628	\$5,046,928	\$5,210,616	\$3,737,412	\$3,363,175
Net income (loss) before tax	\$(4,271,294)	\$(5,044,014)	\$(5,198,411)	\$383,468	\$(3,363,175)
Income tax	0	-	-	\$412,040	-
Total comprehensive loss	\$(4,271,294)	\$(5,044,014)	\$(5,198,411)	\$(28,572)	\$(3,363,175)
Basic and diluted loss per share	\$(0.54)	\$(0.92)	\$(1.02)	\$(0.00)	\$(0.80)
Total assets	\$1,828,187	\$415,920	\$2,141,288	\$2,052,401	\$505,488
Net assets	\$1,206,450	\$(601,781)	\$1,806,220	\$1,474,659	\$21,158
Share capital	\$21,910,238	\$16,498,743	\$14,047,244	\$9,430,914	\$8,319,082
Weighted average number of common shares outstanding (adjusted to reflect changes in capital)	7,952,312	5,687,544	5,090,485	4,524,693	4,268,062
Long-term debt	-	-	-	-	-

Disclosure of Exchange Rate History

Since June 1, 1970, the government of Canada has permitted a floating exchange rate to determine the value of the Canadian dollar as compared to the United States dollar. On April 21, 2017, the exchange rates in effect for Canadian dollars exchanged for United States dollars, expressed in terms of Canadian dollars (based on the noon buying rate of the Bank of Canada), was Cdn \$1.3503 for each one US dollar. For the past five fiscal years ended December 31, 2016 and for the monthly periods subsequent to that date, the following exchange rates were in effect for Canadian dollars exchanged for United States dollars, expressed in terms of Canadian dollars (based on the noon buying rates in New York City, for cable transfers in Canadian dollars, as certified for customs purposes by the Federal Reserve Bank of New York):

Year	Average
December 31, 2012	0.9996
December 31, 2013	1.0636
December 31, 2014	1.1643
December 31, 2015	1.2787
December 31, 2016	1.2735

Month	High / Low
September 2016	1.3247/1.2843
October 2016	1.3403/1.3105
November 2016	1.3581/1.3335
December 2016	1.3555/1.3119
January 2017	1.3437/1.303
February 2017	1.3247/1.3003
March 2017	1.3505/1.3279

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

Much of the information included in this annual report includes or is based upon estimates, projections or other “forward-looking statements”. Such forward-looking statements include any projections or estimates made by our company and our management in connection with our business operations. While these forward-looking statements, and any assumptions upon which they are based, are made in good faith and reflect our current judgment regarding the direction of our business, actual results will almost always vary, sometimes materially, from any estimates, predictions, projections, assumptions or other future performance suggested herein. Such estimates, projections or other forward-looking statements involve various risks and uncertainties as outlined below. We caution the reader that important factors in some cases have affected and, in the future, could materially affect actual results and cause actual results to differ materially from the results expressed in any such estimates, projections or other forward-looking statements.

The common shares of our Company are considered speculative. You should carefully consider the following risks and uncertainties in addition to other information in this annual report in evaluating our company and our business before purchasing any common shares of our company. Our business, operating and financial condition could be harmed due to any of the following risks.

Risks Relating to our Business

Our company currently does not generate recurring revenue from its operations, and as a result, it faces a high risk of business failure.

As of December 31, 2016, we had accumulated \$24,775,687 in net losses since inception. Our business is focused on developing autologous cell therapies that treat functional cellular deficits including chronic tendon injuries, androgenetic alopecia and skin aging. In order to generate revenues, we will incur substantial expenses in the development of our business. We therefore expect to incur significant losses in the foreseeable future. Our company recognizes that if we are unable to generate significant revenues from our activities, our entire business may fail. There is no history upon which to base any assumption as to the likelihood that we will be successful in our plan of operation, and we can provide no assurance to investors that we will generate operating revenues or achieve profitable operations in the future.

We had cash in the amount of \$60,752 and a working capital surplus of \$1,191,130 as of December 31, 2016 and we anticipate that we will require a minimum of approximately \$2,100,000 to proceed with a minimal plan of operations and approximately \$5,200,000 to fund our full plan or operations for the twelve-month period ended April 30, 2018. In order to fund our plan of operations for the next twelve months, we may seek to sell additional equity or debt securities or obtain a credit facility. The sale of convertible debt securities or additional equity securities could result in additional dilution to our shareholders. The incurrence of indebtedness would result in increased debt service obligations and could result in operating and financing covenants that would restrict our operations and liquidity.

Our auditors' opinion on our December 31, 2016 financial statements includes an explanatory paragraph in respect of there being substantial doubt about our ability to continue as a going concern.

We have incurred an accumulated deficit of \$24,775,687 for the cumulative period from September 7, 2006 (inception) to December 31, 2016. We anticipate generating losses for at least the next 12 months, and we will require additional funding to continue its research and development activities, which casts substantial doubt about the Company's ability to continue as a going concern. Our financial statements do not include any adjustments relating to the recoverability and classification of recorded assets, or the amounts of and classification of liabilities that might be necessary in the event that we cannot continue in existence. Our business operations may fail if our actual cash requirements exceed our estimates and we are not able to obtain further financing. If we cannot continue as a viable entity, our shareholders may lose some or all of their investment in our company.

Our business is at an early stage of development and difficulties obtaining regulatory approval, technical deficiencies and other challenges may hinder the development and marketing of our autologous cell therapies.

Our autologous cell therapy technology is at an early stage of development and we may not develop a cell replication technology that can be commercialized. We are still in the early stages of identifying and conducting research on our technology. Our technology will require significant research and development and preclinical and clinical testing prior to regulatory approval, if required, being obtained in the United States, Canada or other countries. We may not be able to obtain regulatory approvals, if required, to complete necessary clinical trials for our cell replication technology, or to commercialize it. Our technology may prove to have undesirable and unintended side effects, or other characteristics adversely affecting its safety, efficacy or cost-effectiveness could prevent or limit its use. Our technology may fail to provide its intended benefit, or achieve benefits equal to or better than our competitor's products at the time of testing or production and, if so, our business may fail.

Our clinical trials may fail to produce successful results or could be suspended due to unacceptable safety risks, which could cause our business to fail.

Clinical trials are subject to extensive regulatory requirements, and are very expensive, time-consuming and difficult to design and implement, in part because they may be subject to rigorous regulatory requirements. Our products may fail to achieve necessary safety and efficacy endpoints during clinical trials. We believe that our clinical trials will take a substantial period of time to complete. Furthermore, failure can occur at any stage of the trials, and we could encounter problems that cause us to abandon or repeat clinical trials. The commencement and completion of clinical trials may be delayed by several factors, including: unforeseen safety issues; lack of effectiveness during clinical trials; slower than expected rates of patient recruitment; and inability to monitor patients adequately during or after treatment. In addition, we or regulatory officials may suspend our clinical trials at any time if it appears that we are exposing participants to unacceptable health risks. If our clinical trials fail to produce successful results, or are suspended due to unacceptable safety risks, our business may fail.

Our success depends on the acceptance of our cell replication technology by the medical community and consumers as a safe and effective solution.

The success of our cell replication technology will depend on its acceptance by potential consumers and the medical community. Because our technology is new in the treatment of functional cellular deficits including chronic tendon injuries, androgenetic alopecia and skin aging, the long term effects of using our new cell replication technology are unknown. The results of short-term clinical trials do not necessarily predict long-term clinical benefit or reveal adverse effects. If results obtained from future commercial experience indicate that our cell replication technology is not as safe or effective as other treatments, adoption of this technology by consumers and the medical community may suffer and our business will be harmed.

We face significant competition and if we are unable to successfully compete, our business may suffer a material negative impact.

The life sciences industry is highly competitive. We anticipate that we will continue to face increased competition as existing companies develop new or improved products and as new companies enter the market with new technologies. Many of our competitors are significantly larger than us and have greater financial, technical, research, marketing, sales, distribution and other resources than us. There can be no assurance that our competitors will not succeed in developing or marketing technologies and products that are more effective or commercially attractive than the products we are developing or that such competitors will not succeed in obtaining regulatory approval, or introducing or commercializing any such products, prior to us. Such developments could have a material adverse effect on our business, financial condition and results of operations. Also, even if we are able to compete successfully, there can be no assurance that we could do so in a profitable manner.

If we are not able to effectively protect our existing intellectual property, our business may suffer a material negative impact and may fail.

The success of our company will be dependent on our ability to protect and develop our technology. We currently have registered patents for our cell replication technology in Australia, the United States, Japan and the European Union. If we are unable to protect our intellectual property, our business may be materially adversely affected. Further, we cannot be sure that our activities do not and will not infringe on the intellectual property rights of others. If we are compelled to prosecute infringing parties, defend our intellectual property or defend ourselves from intellectual property claims made by others, we may face significant expense and liability, as well as the diversion of management's attention from our business, any of which could negatively impact our business or financial condition.

The actual protection afforded by a patent varies on a product-by-product basis, from country to country and depends on many factors, including the type of patent, the scope of its coverage, the availability of regulatory related extensions, the availability of legal remedies in a particular country and the validity and enforceability of the patents. Our ability to maintain and solidify our proprietary position for our products will depend on our success in obtaining effective claims and enforcing those claims once granted. Our registered patents and those that may be issued in the future, or those licensed to us, may be challenged, invalidated, unenforceable or circumvented, and the rights granted under any issued patents may not provide us with proprietary protection or competitive advantages against competitors with similar products. We also rely on trade secrets to protect some of our technology, especially where it is believed that patent protection is not appropriate or obtainable. However, trade secrets are difficult to maintain. While we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors or scientific and other advisors may unintentionally or willfully disclose our proprietary information to competitors. Enforcement of claims that a third party has illegally obtained and is using trade secrets is expensive, time consuming and uncertain. In addition, non-U.S. courts are sometimes less willing than U.S. courts to protect trade secrets. If our competitors independently develop equivalent knowledge, methods and know-how, we would not be able to assert our trade secrets against them and our business could be harmed.

The successful acquisition and maintenance of patent rights is critical to our business and any failure in this regard could hinder the development and marketing of our technology.

We currently have patent applications pending in several other countries around the world. Our pending patent applications may not result in the issuance of any patents. The applications may not be sufficient to meet the statutory requirements for patentability in all cases or may be the subject of interference proceedings by patent offices. These proceedings determine the priority of inventions and, thus, the right to a patent for technology. In the past, our patent applications have experienced delays and our patent applications may be delayed in the future. If others file patent applications or obtain patents similar to those we have licensed, such patents may restrict the use of our discoveries. We cannot predict the ultimate scope and validity of existing patents and patents that may be granted to third parties, nor can we predict the extent to which we may wish or be required to obtain licenses to use such patents, or the availability and cost of acquiring such licenses. To the extent that licenses are required, the owners of the patents could bring legal actions against us to claim damages or to stop our manufacturing and marketing of the affected technology. If we become involved in patent litigation, it could consume a substantial portion of our resources.

Our company may be subject to changes and uncertainties in laws and government regulations.

Our company is subject to regulation by domestic and foreign governmental agencies with respect to many aspects of developing autologous cell replication technology. In addition, relevant new legislation or regulation could occur. Any such new legislation or regulation, the application of laws and regulations from jurisdictions whose laws do not currently apply to our company's business, or the application of existing laws and regulations to cell replication technology, could have a material adverse effect on our company's business, prospects, financial condition and results of operations.

Risks Relating to our Management

We are dependent on the services of certain key consultants and the loss of any of these key consultants may have a materially adverse effect on our company.

While engaged in the business of developing a new cell replication technology, our company's ability to continue to develop a competitive edge in the marketplace will depend, in large part, on our ability to attract and maintain qualified key management personnel. Competition for such personnel is intense, and we may not be able to attract and retain such personnel. Our company's growth has depended, and in the future will continue to depend, on the efforts of our key management consultants. Loss of any of these people would have a material adverse effect on our company. Currently, our company does not have key-man life insurance.

Conflicts of interest may arise as a result of our company's directors and officers being directors or officers of other life sciences companies.

Certain of our company's directors and officers are, or may become, directors or officers of other life sciences companies. While we are engaged in the business of developing a new autologous cell replication technology, such associations may give rise to conflicts of interest from time to time. Our company's directors are required by law to act honestly and in good faith with a view to our company's best interests and to disclose any interest that they may have in any project or opportunity. If a conflict of interest arises at a meeting of our company's board of directors, any director in a conflict must disclose his interest and abstain from voting on such matter. In determining whether or not our company will participate in any project or opportunity, our company's directors will primarily consider the degree of risk to which our company may be exposed and our financial position at the time.

Our articles contain provisions indemnifying our officers and directors against all costs, charges and expenses incurred by them.

Our articles contain provisions limiting the liability of our officers and directors for all acts, receipts, neglects or defaults of themselves and all of our other officers or directors or for any loss, damage or expense incurred by our company which may happen in the execution of the duties of such officers or directors. Such limitations on liability may reduce the likelihood of derivative litigation against our company's officers and directors and may discourage or deter our shareholders from suing our company's officers and directors based upon breaches of their duties to our company, though such an action, if successful, might otherwise benefit our company and our shareholders.

As a majority of our directors and officers are residents of countries other than the United States, investors may find it difficult to enforce, within the United States, any judgments obtained against our company, directors and officers.

A majority of our directors and officers are nationals and/or residents of countries other than the United States, and all or a substantial portion of such persons' assets are located outside the United States. Consequently, it may be difficult for United States investors to effect service of process in the United States upon those directors or officers who are not residents of the United States, or to realize in the United States upon judgments of United States courts predicated upon civil liabilities under United States legislation. There is substantial doubt whether an original action based solely upon such civil liabilities could be brought successfully in Canada against any of such persons or our company.

Risks Relating to our Common Stock

If our business is unsuccessful, our shareholders may lose their entire investment.

Although shareholders will not be bound by or be personally liable for our expenses, liabilities or obligations beyond their total original capital contributions, should we suffer a deficiency in funds with which to meet our obligations, the shareholders as a whole may lose their entire investment in our company.

Trading of our company's common shares on the OTCQB (operated by the OTC Markets Group) and the TSX Venture Exchange is limited and sporadic, making it difficult for our company's shareholders to sell their common shares or liquidate their investments.

The trading price and volume of our company's common shares has been and may continue to be subject to wide fluctuations. The stock market has generally experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of companies. There can be no assurance that trading prices previously experienced by our company's common shares will be matched or maintained. Trading in our common shares has been limited and sporadic and accordingly there is no guarantee that an investor will be able to liquidate any or all of its investment. These broad market and industry factors may adversely affect the market price of the common shares, regardless of our company's operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been instituted. Such litigation, if instituted, could result in substantial costs for our company and a diversion of management's attention and resources.

Investors' interests in our company will be diluted and investors may suffer dilution in their net book value per share if we issue additional options to any of our officers, directors, employees or consultants.

Because our company's success is highly dependent upon our directors, officers and consultants, we have granted, and may again in the future grant, options to some or all of our key officers, directors, employees and consultants to purchase our common shares as non-cash incentives. Options may be granted at exercise prices below that of our common shares prevailing in the public trading market at the time or may be granted at exercise prices equal to market prices at times when the public market is depressed. To the extent that significant numbers of such options may be granted and exercised, the interests of our company's other shareholders may be diluted.

Investors' interests in our company will be diluted and investors may suffer dilution in their net book value per share if our company issues additional common shares or raises funds through the sale of equity securities.

In the event that our company is required to issue additional common shares in order to raise financing, investors' interests in our company will be diluted and investors may suffer dilution in their net book value per share depending on the price at which such securities are sold. The dilution may result in a decline in the market price of our common shares.

Penny stock rules limit the ability of our shareholders to sell their stock.

The Securities and Exchange Commission has adopted regulations which generally define "penny stock" to be any equity security that has a market price (as defined) less than \$5.00 per share or an exercise price of less than \$5.00 per share, subject to certain exceptions. Our securities are covered by the penny stock rules, which impose additional sales practice requirements on broker-dealers who sell to persons other than established customers and accredited investors. The penny stock rules require a broker-dealer, prior to a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document in a form prepared by the Securities and Exchange Commission, which provides information about penny stocks and the nature and level of risks in the penny stock market. The broker-dealer also must provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker-dealer and its salesperson in the transaction and monthly account statements showing the market value of each penny stock held in the customer's account. The bid and offer quotations, and the broker-dealer and salesperson compensation information, must be given to the customer orally or in writing prior to effecting the transaction and must be given to the customer in writing before or with the customer's confirmation. In addition, the penny stock rules require that prior to a transaction in a penny stock not otherwise exempt from these rules, the broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's written agreement to the transaction. These disclosure requirements may have the effect of reducing the level of trading activity in the secondary market for the stock that is subject to these penny stock rules. Consequently, these penny stock rules may affect the ability of broker-dealers to trade our securities.

The Financial Industry Regulatory Authority, or FINRA, has adopted sales practice requirements which may also limit a shareholder's ability to buy and sell our stock.

In addition to the "penny stock" rules described above, FINRA has adopted rules that require that in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative low priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer's financial status, tax status, investment objectives and other information. Under interpretations of these rules, FINRA believes that there is a high probability that speculative low priced securities will not be suitable for at least some customers. FINRA requirements make it more difficult for broker-dealers to recommend that their customers buy our common stock, which may limit your ability to buy and sell our stock and have an adverse effect on the market for our common shares.

We do not intend to pay dividends on any investment in the shares of stock of our company.

We have never paid any cash dividends and currently do not intend to pay any dividends for the foreseeable future. To the extent that we require additional funding currently not provided for in our financing plan, our funding sources may prohibit the payment of a dividend. Because we do not intend to declare dividends, any gain on an investment in our company will need to come through an increase in the stock's price. This may never happen and investors may lose all of their investment in our company.

ITEM 4 Information on RepliCel Life Sciences Inc.

A. History and Development of RepliCel Life Sciences Inc.

Name

Our legal name is "RepliCel Life Sciences Inc.". We changed our name from "Newcastle Resources Ltd." on June 22, 2011.

Principal Office

Our principal office is located at Suite 900 - 570 Granville Street, Vancouver, British Columbia, Canada V6C 3P1. Our telephone number is (604) 248-8730 and our facsimile number is (604) 248-8690.

Corporate Information and Important Events

Our company was incorporated under the laws of the Province of Ontario (specifically under the *Business Corporations Act* (Ontario)) on April 24, 1967 under the name "Jolly Jumper Products of America Limited". On September 25, 1987, our name was changed to "Sun Valley Hot Springs Ranch Inc.". We changed our name to "Tri-Valley Free Trade Inc." on March 26, 1991 and to "Tri-Valley Investments Corporation" on June 19, 1995. On October 2, 1998, we changed our name to "TriLateral Venture Corporation". On May 6, 2004, we changed our name to "Pan American Gold Corporation" and on November 10, 2008, we changed our name to "Newcastle Resources Ltd.". On June 22, 2011, we continued our company from Ontario into British Columbia and changed our name to "RepliCel Life Sciences Inc.". We are a reporting issuer under the securities laws of the Provinces of British Columbia, Alberta and Ontario. Under the *Business Corporations Act* (British Columbia), our company has an indefinite life span.

On November 10, 2008, our issued and outstanding common shares were consolidated on the basis of one (1) common share for every (30) common shares held and our name was changed to Newcastle Resources Ltd. The reverse split and name change were effected with the OTC Bulletin Board on November 28, 2008, at which time our trading symbol was changed to "NCSLF".

On December 22, 2010, we closed a Share Exchange Agreement with TrichoScience Innovations Inc. ("**TrichoScience**") whereby we acquired all of the issued and outstanding shares of TrichoScience. During the year ended December 31, 2011, 100% of the former TrichoScience shareholders tendered their shares in exchange for our common shares and TrichoScience became a 100% owned subsidiary of our company. The TrichoScience shareholders who received our common shares in connection with the closing deposited the common shares with a trustee pursuant to the terms of a pooling agreement between us and the trustee. The common shares were subject to a timed release schedule under which 15% of the common shares were released on the first day of each of the fiscal quarters occurring after the first anniversary of the closing.

Concurrent with the acquisition, we also acquired all of the issued and outstanding common shares of 583885 B.C. Ltd. (“**583885**”) in exchange for 440,000 of our common shares. 583885 did not have any assets or liabilities at the date of acquisition and was a private company controlled by David Hall, our former Chief Executive Officer (“**CEO**”). 340,000 of our common shares controlled by David Hall were deposited with an escrow agent pursuant to the terms of an escrow agreement between us and the escrow agent. These common shares were to be released upon satisfaction of certain performance conditions as set out in the escrow agreement. The other 100,000 common shares issued were not subject to escrow provisions. Mr. Hall resigned from the CEO position effective January 1, 2016 and in connection therewith, Mr. Hall returned 60,000 common shares held in escrow and the balance of the shares were released to Mr. Hall.

On June 22, 2011, we filed a continuance application with the corporate registrar of the Province of British Columbia and pursuant to which we continued our jurisdiction of incorporation from the Province of Ontario to the Province of British Columbia. In connection with the continuance, we adopted new articles and changed our name to “RepliCel Life Sciences Inc.”. We continued to the Province of British Columbia with our authorized capital consisting of an unlimited number of common shares without par value, an unlimited number of Class A preference shares without par value and an unlimited number of Class C preference shares without par value.

On November 29, 2011, 1,300,000 of the Class C preference shares, being all the issued and outstanding Class C shares, were converted on a 5:1 ratio, into 260,000 common shares by the holders thereof. All of the common shares issued on conversion of the Class C shares were deposited with a trustee pursuant to the terms of pooling agreements. The common shares were subject to a timed release schedule under which 15% of the common shares were released on the first day of each of the fiscal quarters beginning January 1, 2013.

On December 5, 2011, we filed articles of amendment with the corporate registrar of the Province of British Columbia, cancelling the Class C preference shares.

On February 29, 2012, we completed a private placement of 6,630 units at a price of US\$15.00 per unit for gross proceeds of US\$99,456. Each unit issued consisted of one common share and one common share purchase warrant. Each warrant entitled the holder to purchase an additional common share at US\$2.50 per common share for a period of 24 months from the closing of the financing.

On March 29, 2012, we completed a private placement of 87,604 units at a price of US\$15.00 per unit for gross proceeds of US\$1,314,063. Each unit issued consisted of one common share and one common share purchase warrant. Each warrant entitled the holder to purchase an additional common share at US\$25.00 per common share for a period of 24 months from the closing of the financing.

On April 18, 2012, we completed a private placement of 50,267 units at a price of US\$15.00 per unit for gross proceeds of US\$754,000. Each unit issued consisted of one common share and one common share purchase warrant. Each warrant entitled the holder to purchase an additional common share at US\$25.00 per common share for a period of 24 months from the closing of the financing. A finder’s fee of \$36,000 was issued in connection with the financing.

On April 20, 2012, we completed a private placement of 43,003 units at a price of US\$15.00 per unit for gross proceeds of US\$645,050. Each unit issued consisted of one common share and one common share purchase warrant. Each warrant entitled the holder to purchase an additional common share at US\$25.00 per common share for a period of 24 months from the closing of the financing.

On February 7, 2013, we amended the exercise price of the warrants expiring March 1, 2014, March 29, 2014, April 18, 2014 and April 20, 2014 from US\$25.00 to US\$5.00 per common share. The warrants entitled holders to purchase an aggregate of 187,505 common shares.

On April 10, 2013, we completed a private placement of 164,356 units at price of \$3.10 per unit for gross proceeds of \$509,502. A finder's fee of \$9,920 was paid in cash in connection with the private placement. Each unit issued consisted of one common share and one common share purchase warrant. Each warrant entitled the holder to purchase an additional common share at \$5.00 per common share for a period of 24 months from the closing of the financing.

On May 21, 2013, we completed a private placement of 40,000 units at price of \$3.20 per unit for gross proceeds of \$124,000. Each unit issued consisted of one common share and one common share purchase warrant. Each warrant entitled the holder to purchase an additional common share at \$5.00 per common share for a period of 24 months from the closing of the financing.

On July 19, 2013, we completed a private placement of 105,000 common shares at price of \$5.00 per common share for gross proceeds of \$525,000. A finder's fee of \$36,750 was paid in cash in connection with the private placement.

On May 9, 2014, we completed the first tranche of its financing, consisting of total units of 371,716 at a price of \$7.50 per unit for total gross proceeds of \$2,787,875.25. The financing consisted of a brokered private placement of 278,367 units at a price of \$7.50 per unit for gross proceeds of \$2,087,750.25 and a non-brokered private placement of 93,350 units at a price of \$7.50 per unit for gross proceeds of \$700,125.00. On May 21, we completed the second tranche of its financing, consisting of total units of 73,700 units at a price of \$7.50 per unit for gross proceeds of \$552,750. On June 16, 2014, we completed the third tranche of its financing, consisting of 86,600 units at a price of \$7.50 per unit for gross proceeds of \$649,500. Each unit issued consisted of one common share and one common share purchase warrant. Each warrant entitled the holder to purchase an additional common share at a price of \$10.00 per share during the first year and \$12.50 per common share during the second year.

On April 7, 2015, we amended the expiry date of 164,356 warrants from April 10, 2015 to April 10, 2016 and of 40,000 warrants from May 21, 2015 to May 21, 2016.

On June 25, 2015, we completed a private placement consisting of a total of 657,509 units at a price of \$3.10 per unit for total gross proceeds of \$2,038,279. Each unit consisted of one common share and one common share purchase warrant, which entitles the holder to purchase one additional common share for a period of three years from the closing of the private placement at a price of \$5.10 per common share. Finder's fees of \$94,881 were paid in cash and 30,607 agent's options where each agent's option entitles the agent the option to purchase one unit ("Agent's Unit") at a price of \$3.10 per Agent's Unit expiring two years from the closing of the private placement. Each Agent's Unit consists of one common share and one common share purchase warrant, which entitles the agent to purchase one additional common share expiring June 25, 2017 at a price of \$5.10 per common share.

On November 20, 2015 we completed the first tranche of a private placement, consisting of a total of 173,900 units at a price of \$3.10 per unit for total gross proceeds of \$539,090. Each unit consisted of one common share one common share purchase warrant, which entitles the holder to purchase one additional common share for a period of two years from the closing of the private placement at a price of \$4.00 per common share. Finder's fees of \$43,127 were paid in cash and 13,912 agent's options where each agent's option entitles the agent the option to purchase one Agent's Unit at a price of \$3.10 per Agent's Unit expiring two years from the closing of the private placement. Each Agent's Unit consists of one common share and one purchase warrant, which entitles the agent to purchase one additional common share expiring two years. On December 23, 2015, we completed the second tranche of a private placement, consisting of a total of 21,900 units at a price of \$3.10 per unit for total gross proceeds of \$67,890. Each unit consisted of one common share and one common share purchase warrant, which entitles the holder to purchase one additional common share for a period of two years from the closing of the private placement at a price of \$4.00 per common share. Finder's fees of \$2,952 were paid in cash and 952 agent's options where each agent's option entitles the agent the option to purchase one Agent's Unit at a price of \$3.10 per Agent's Unit expiring two years from the closing of the private placement. Each Agent's Unit consists of one common share and one purchase warrant, which entitles the agent to purchase one additional common share expiring two years.

On February 24, 2016, we completed a warrant incentive program (the “**Program**”) announced on February 9, 2016 where 111,362 warrants were exercised in connection with the Program at an exercise price of \$2.20 for gross proceeds totaling \$244,997. 111,362 additional common share purchase warrants (each an “**Incentive Warrant**”) were granted in connection with the Program, with each Incentive Warrant entitling the holder to purchase one additional common share expiring on February 25, 2018 at a price of \$4.00 per common share.

On April 5, 2016, we completed a private placement of 188,763 common shares at a price of \$2.00 per common share for gross proceeds of \$377,525.

On April 29, 2016, we amended the expiry date of 309,983 warrants from May 9, 2016 to May 9, 2018 and the expiry date of 66,600 warrants from June 16, 2016 to June 16, 2018. We also amended the exercise price of the warrants from US\$10.00 to US\$5.00 per common share for the first year and from \$12.50 to \$5.00 for the second year. The exercise price of these repriced warrants was also amended by reducing the exercise period to 30 days if, for any ten consecutive trading days during the expired term of these repriced warrants, the closing price of our common shares exceeds \$6.25.

One June 1, 2016, we completed a private placement of 138,000 common shares at a price of \$1.50 per share for gross proceeds of \$207,000.

Effective at the opening of the market on August 10, 2016, our issued and outstanding common shares were consolidated on the basis of one (1) common share for every ten (10) common shares held.

On October 28, 2016, we completed a private placement consisting of a total of 8,199,999 units at a price of \$0.52 per unit for total gross proceeds of \$4,263,999.48. Each unit consisted of one common share and one common share purchase warrant, which entitles the holder to purchase one additional common share for a period of two years from the closing of the private placement at a price of \$0.85 per common share, subject to an acceleration provision such that, in the event that the common shares have a closing price on the TSX Venture Exchange of greater than \$1.50 per common share for a period of 10 consecutive trading days at any time after four months and one day from the closing of the offering, we may accelerate the expiry date of the warrants by giving notice to the holders thereof and, in such case, the warrants will expire on the 30th day after the date on which such notice is given to the holder. Finder’s fees of \$214,374 were paid in cash, 339,391 finder’s warrants and 12,000 finder’s units (the “**Finder’s Units**”). Each Finder’s Unit consisted of one common share and one common share purchase warrant, which entitles the finder to purchase one additional common share expiring October 28, 2018 at a price of \$0.85 per common share.

On December 28, 2016, we settled \$374,071.63 in debt by the issuance of 719,368 units at a deemed price of \$0.52 per unit. Each unit consisted of one share and one share purchase warrant, with each warrant entitling the holder to purchase one additional common share until December 28, 2018 at a price of \$1.10 per common share, subject to an acceleration provision such that, in the event that the common shares have a closing price on the TSX Venture Exchange of greater than \$2.00 per common share for a period of 10 consecutive trading days at any time after four months and one day from the closing of the debt settlement, we may accelerate the expiry date of the warrants by giving notice to the holders thereof and, in such case, the warrants will expire on the 30th day after the date on which such notice is given to the holder.

On February 24, 2017, we completed a brokered private placement consisting of a total of 2,181,300 units at a price of \$1.25 per unit for total gross proceeds of \$2,726,625 and a non-brokered private placement of 350,800 units at a price of \$1.25 per unit for gross proceeds of \$438,500. Each unit consisted of one common share and one common share purchase warrant, which entitles the holder to purchase one additional common share for a period of three years from the closing of the private placement at a price of \$2.00 per common share. Finder’s fees of \$218,130 were paid in cash and 174,504 finder’s warrants were issued to the finder’s in connection with the brokered portion of the offering. A corporate finance fee and 15,000 finder’s warrants in connection with the non-brokered portion of the offering. The finder’s warrants have the same terms as the warrants.

On March 17, 2017, we amended the expiry date of 164,356 warrants from April 10, 2016 to April 10, 2017 and the exercise price of the warrants from \$5.00 to \$1.14, subject to a forced exercise provision if the closing price of our common shares is \$1.37 or greater for a period of 10 consecutive trading days, then the warrant holders will have 30 days to exercise their warrants; otherwise the warrants will expire on the 31st day. We also amended the expiry date of 173,900 warrants from November 20, 2016 to November 20, 2017 and the exercise price from \$4.00 to \$1.14, Subject to a forced exercise provision if the closing price of our common shares is \$1.37 or greater for a period of 10 consecutive trading days, then the warrant holders will have 30 days to exercise their warrants; otherwise the warrants will expire on the 31st day.

Capital Expenditures

During the last three fiscal years ended December 31, 2016, we did not undertake any capital expenditures. On March 11, 2011, we acquired an additional 2,050,000 shares of TrichoScience at a price of \$1.00 per share. This acquisition was internally financed from the proceeds of our March 2011 private placement for gross proceeds of US\$2,550,000.

Takeover offers

We are not aware of any indication of any public takeover offers by third parties in respect of our common shares during our last and current financial years.

B. Business Overview and Plan of Operations

Overview

We are a regenerative medicine company focused on developing autologous cell therapies that treat functional cellular deficits. The diseases currently being addressed are chronic tendinitis, skin aging, and androgenetic alopecia (pattern baldness). Each disease state is consistent with a deficit of a specific cell type which we believe is critical to normal function. All treatments under development are based on our innovative technology which utilizes cells isolated from a patient's own healthy hair follicles. These products are built on our proprietary manufacturing platforms and are covered by issued and filed patents as well as trade secrets. We are also developing a programmable cell injector device designed for dermal injections of cells, currently approved dermal filler products, and a variety of other products injected through the skin.

The Potential of Autologous Cell Therapy

Our treatments use autologous cell therapy ("ACT"), which is one of the most rapidly developing areas of regenerative medicine in the development of novel treatments for numerous human disorders. ACT involves isolating an individual's own cells from harvested tissues and growing more of those cells, or 'expanding' those cells, in controlled conditions in a laboratory. These purified, expanded cells are then reintroduced to the donor to treat a specific condition. The benefits of autologous (derived from the same person) therapy (as compared to heterologous or derived from a different person) includes minimized risks of systemic immunological (anaphylactic) reactions, bio-incompatibility, and disease transmission. Furthermore, the effects of ACT may be longer lasting than pharmacological or surgical interventions.

Background

Tendinosis refers to a chronic disease of the tendon. It is a function of an imbalance of tendon breakdown and tendon repair initiated first by an injury which does not heal properly. This leads to cycles of compromised repair and subsequent re-injury until such time as there is no healing and a degenerative process has set in. Typically, this chronic condition is linked to aging, overuse, and to general health. We believe that the current standard of care is failing to provide a satisfactory solution to this chronic condition.

Treatment

We believe that chronic tendon injuries resulting from sports-related or occupational overuse is a significant unmet medical need. Tendons consist of specialized connective tissues that attach muscles to bones, transmitting force and supporting the musculoskeletal system. When mechanical loads exceed the strength of a tendon or tensile range is lost due to aging, micro-tears of the collagen fibers within tendon occur. Once a tendon is injured, healing can occur intrinsically via tenocyte activation within the injured site or extrinsically via recruitment of collagen-producing cells from the surrounding area. Naturally healed tendon does not return to the same physiological state as 'intact' tendon, but does allow for normal function. Inadequate rest and improper healing often result in re-injury and rupture.

Current treatments manage pain and facilitate healing processes; however, they do not mediate complete recovery and leave patients demobilized for several months during treatment. We believe that improved therapeutic strategies are therefore in considerable demand. Our fibroblast technology for tendinosis, which we refer to as RCT-01, has been developed over five years of research, experimentation and trials. RCT-01 is a tissue-engineered product made from a procedure using collagen-producing fibroblasts isolated from non-bulbar dermal sheath (NBDS) cells within the hair follicle that are replicated in culture. These fibroblasts are efficient producers of type I collagen and because they are of anagen hair follicle mesenchymal origin, they have the potential to replicate efficiently in culture. The use of these fibroblasts are, therefore, ideal for treating chronic tendon disorders that arise due to either a degeneration of collagen producing cells or a deficit of active collagen producing cells. Because RCT-01 directly provides a source of collagen expressing cells to the site of injury, addressing the underlying cause of tendinosis, we believe it has advantages over current treatments such as the use of non-steroidal anti-inflammatory medication or corticosteroids which are limited in efficacy. Another advantage of RCT-01 is the autologous nature of the cellular product, thereby reducing the likelihood of adverse immune reactions upon administration.

Phase I Clinical Trial

Phase I human pilot clinical trials were conducted by our collaborative partner, Dr. David Connell, which focused on tendinosis of the Achilles, patellar and lateral elbow (commonly referred to as tennis elbow) using skin tissue derived fibroblasts. In these trials, where 90 patients were injected with cultured, autologous fibroblasts, no adverse events were reported. We have expanded on Dr. Connell's approach by isolating NBDS fibroblasts from the hair follicle that express upwards of five times the amount of type I collagen than fibroblasts derived from skin tissue as pursued by Dr. Connell.

Phase 1/2 Clinical Trial

On December 1, 2014, we announced receipt of a “No Objection Letter” from Health Canada in response to its Clinical Trial Application to Health Canada for its phase 1/2 clinical trial to test the safety and efficacy of injections of RCT-01 on patients suffering from chronic Achilles tendinosis. Health Canada’s clearance to initiate the trial permitted the participation of up to 28 subjects who have failed traditional tendon treatments and who are otherwise in good health. Trial design was randomized, double-blinded, placebo-controlled with a treatment-to-placebo ratio of 3:1. The mechanics of our treatment involve the extraction of as few as 20 hair follicles from the back of a patient’s scalp via a single punch biopsy. NBDS cells are isolated from the hair follicle sheath, replicated in a current Good Manufacturing Practices (cGMP) facility and are then reintroduced under ultrasound guidance directly into the area of damaged tendon. The collagen rich fibroblast cells are expected to initiate and complete the healing of the chronically injured tendon. After injections are performed, subjects will return to the clinic for assessments of safety, function and pain, as well as changes in tendon thickness, echotexture, interstitial tears and neovascularity. The primary end point is safety while a secondary end point of efficacy is being measured at six months. We will pursue further indications of other tendon populations including patellar tendinosis (jumper’s knee) and lateral and medial epicondylitis (tennis and golfer’s elbow).

In March 2017, we received safety and clinical data from our phase 1/2 tendon repair study investigating the use of our type 1 collagen-expressing, hair follicle-derived fibroblasts (RCT-01) as a treatment for Achilles tendinosis. The clinical trial met its goal of establishing a complete safety profile at 6 months and showed no serious adverse events related to the study treatment or injection procedure. Additionally, each of the treated participants, all of whom suffered chronic tendon pain and loss of function over an extended period of time with no recovery from standard treatments, showed numerous clinically important improvements by various measures including tendon composition, blood supply, physical function and pain sensation.

The most clinically material improvements observed from the study are summarized as follows:

VISA-A Scale of Achilles Tendon Injury Severity

Participants treated with RCT-01 in the per protocol population who completed the VISA-A evaluation 6 months after receipt of injections showed clinically relevant signals of healing including an overall 15.3% improvement in total score compared to baseline. Two patients showed select measures of near-complete recovery in function (by VISA-A scoring).

VAS Scale of Pain Severity

Four out of five participants treated with RCT-01 who completed questionnaires 6 months after injection showed clinically relevant signals of improvement in pain on loading (running/jumping) based on VAS score. Average improvement in VAS score for the four participants was 62.9% over baseline VAS score.

Three out of five participants treated with RCT-01 who completed questionnaires 6 months after injection showed improvement in pain on palpation based on VAS score. Average improvement in VAS score for the three participants was 55.2% over baseline VAS score.

Two patients showed select measures of near-complete elimination of pain (by VAS scoring).

About Tendon Treatment Clinical Efficacy Measurements

VISA-A

The VISA-A scale aims to evaluate the clinical severity for patients with chronic Achilles tendinopathy. It is a questionnaire which evaluates symptoms and their effect on physical activity. It can be used to compare different populations with chronic Achilles tendinopathy and facilitate comparisons between studies. It can be used to determine the patient's clinical severity. The VISA-A represents a clinically validated, reliable and disease-specific questionnaire to measure the condition of the Achilles tendon, but it is not a diagnostic tool. The final version of the questionnaire was named the Victorian Institute of Sport Assessment-Achilles Questionnaire.

VAS

A Visual Analogue Scale (VAS) is often used in epidemiologic and clinical research to measure the intensity or frequency of various symptoms. It is an instrument that measures a characteristic or attitude that is believed to range across a continuum of values and cannot easily be directly measured.

For example, the amount of pain that a patient feels ranges across a continuum from none to an extreme amount of pain. From the patient's perspective, this spectrum appears on a continuum, in that their pain does not take discrete jumps, as a categorization of none, mild, moderate and severe would suggest. It was to capture this idea of an underlying continuum that the VAS was devised.

Intellectual Property

We have developed and filed patent applications relating to compositions, methods and uses of NBDS cells for the treatment and repair of tendons. We have also licensed a family of patent applications relating to the compositions and uses of dermally derived cells in the treatment of tendons and ligaments.

Competitors

Typically the pain associated with tendinosis is controlled by many treatment modalities including the use of analgesic and anti-inflammatory medications, rest, physical therapy, ice, orthotics, ergonomic adjustments, laser therapy, platelet-rich plasma injections, dextrose injections and surgery. However, there is currently no therapy to treat the underlying, causative nature of the disease.

Orthocell, an Australian company, is pursuing an autologous cell-based technology where they harvest and expand tenocyte cells isolated from a biopsy taken from a patient's own tendons. A pilot study of 17 patients with severe refractory lateral epicondylitis showed improved clinical function and structural repair at the origin of the common extensor tendon after the treatment. A larger clinical trial needs to be conducted in order to generate significant data. Furthermore, the necessity to remove tendon in order to cultivate the tenocyte cells is an invasive procedure. In contrast, our procedure only requires the removal of up to 20 hair follicles from the back of the scalp.

RCS-01: Treatment for Aging and Sun Damaged Skin

Background

Skin is considered one of the most prominent indicators of one's age and health. Maintenance of healthy skin is dictated by intrinsic and extrinsic factors. While intrinsic factors (i.e. chronologic age, sex and genetic makeup) cannot be modified, the adverse effects caused by extrinsic factors such as UV radiation and smoking can be prevented or minimized by lifestyle modification. Although these extrinsic effects can be modulated, the extent to which they can be modified varies significantly among individuals, which largely depends on one's ability to detoxify and repair such damage.

The dermis and epidermis components of the skin lose thickness with age. Solar radiation, particularly UVA, is known to penetrate deep into the dermal layer, damaging fibroblasts, collagen and other fibroblasts expressed proteins, which are the major cellular components of the dermis. Similarly, there are some studies reporting that air pollutants/nanoparticles may also penetrate transepidermally, negatively impacting the dermal layer. The damages caused by external stimuli include DNA strand breaks and mutations, which, if not repaired properly, can lead to cell death. Similarly, oxidative stress caused by smoking leads to not only damages to DNA but also to other cellular components such as proteins and lipids.

Accumulation of damage to cellular proteins and DNA from years of exposure to extrinsic insults can lead to physiological changes of the skin that are irreversible. Such changes are often associated with a reduction in fibroblast cells, disorganization of collagen fibrils and decreased production of collagen, elastin and other glycoproteins that provide structural support and stability to the extra cellular matrix (“ECM”) network. Such changes to the dermal components are detrimental to maintaining mechanical tensile ability and structural integrity of the skin.

Treatment

Our NBDS-derived fibroblast therapy, which we refer to as RCS-01, provides a promising platform to treat intrinsically and extrinsically aged/damaged skin by providing UV-naïve collagen-producing fibroblast cells directly to the affected area. Our unique manufacturing technology allows for isolation of fibroblasts derived from anagen-hair follicle mesenchymal tissues, which elicit more efficient replication potential in culture. Additionally, our proprietary culture procedures potentiate these cells to maintain plasticity, allowing the cells to adapt to the microenvironment and respond to the mechanical or surrounding stimuli after injection, leading to robust production of type I collagen and elastin and their proper alignment within the tissue.

Phase I Clinical Trial

On September 1, 2015, we announced that we had received clearance from the German Competent Authority, the Paul-Ehrlich-Institute, to initiate a Phase I clinical trial to investigate the potential safety and efficacy of injecting RCS-01 into subjects with aged or UV-damaged skin. This trial is a randomized, double-blind, placebo controlled study of intradermal injections of RCS-01 designed to assess local safety as well as systemic safety. In addition, quantitative analysis of skin gaining-related bio-markers is being conducted along with histopathological assessment of treatment sites to determine structural changes.

In April 2017, we received statistically and clinically significant positive data from the interim analysis of our phase I study evaluating RCS-01 for the treatment of aging and sun damaged skin.

The primary objective of this trial was to establish a complete safety profile for intradermal injections of RCS-01 (RepliCel’s type I collagen-expressing, hair follicle-derived fibroblasts [“NBDS cells”]) at six months post-injection. Participants in the Germany-based study did not report any serious adverse events at the interim point of the trial. Researchers also gathered compelling positive proof-of-concept data indicating the product’s potential for skin rejuvenation.

The study was neither powered for, nor was expected to show statistically significant results of efficacy. However, the nearly two-fold increase in gene expression of collagen-related biomarkers in the skin, after a single injection of RCS-01, was so profound with a single RCS-01 injection, that the results are considered statistically significant. The study observed the impact of the injection on ten different biomarkers that, in peer-reviewed medical literature, are highly correlated with skin aging and chronically sun-damaged skin. Notably, gene expression markers, such as tissue inhibitor of metalloproteinases (TIMP), showed significant changes expected to correlate with increased collagen fibers. Increased collagen production, and reduced collagen degradation, is associated with fewer wrinkles and the repair of sun-damaged skin.

About the RCS-01 Study

The clinical trial was a randomized, double-blind, placebo-controlled, single-centre, phase I safety study of intradermal injections of RCS-01 in healthy subjects. The primary endpoint was to assess the local safety profile by recording and evaluating adverse events reported at the treatment evaluation sites. Secondary safety measures related to any reporting of systemic adverse events and assessment of histopathological abnormalities of the treatment sites. Secondary endpoints also included evaluating any changes in expression of numerous genetic markers (using real-time PCR) related to intrinsic skin aging, skin wrinkling and solar degeneration of skin.

After trial inclusion, all participants provided a biopsy from the scalp from which RCS-01 was prepared at a central GMP manufacturing site. Study participants were randomized to one of two treatment subgroups that received intradermal injections of either RCS-01 or placebo. Each participant had four treatment evaluation sites identified on their buttocks, two on each side to allow for a within-subject comparison of single and triple injections of RCS-01 with placebo respectively. Participants in the RCS-01 Subgroup received injections of RCS-01 or placebo or a 'sham' injection (a needle penetration without injection of liquid). Participants in the Placebo Subgroup were randomized to receive only injections of placebo or sham injections to compare the systemic safety profile to the RCS Subgroup.

Baseline evaluations of subjects' overall health and skin condition at treatment sites on their buttocks were performed before receipt of injections at Day 0. In addition to injections delivered at Day 0, the preselected treatment evaluation sites received intradermal injections of RCS-01 or placebo (cryomedium) or a sham injection four and eight weeks after Day 0 according to a randomization schedule for a total of three injections per treatment site.

All participants returned/will return to the clinic for at least nine visits to monitor safety. Assessment of the local safety profile was performed by the investigator before each injection visit, two to four days after injection, and 12 and 26 weeks after injection. The investigator was asked to examine each treatment site for the presence or absence of local adverse events and grade them with respect to relatedness to treatment, severity and seriousness. Other study assessments included recording of vital signs at each visit and routine laboratory assessments at screening, injection visits and at the Week 26 time point. At the 12-week time point, nine randomly selected participants provided biopsies from all injection sites for gene expression analysis of skin markers related to aging. At Week-26 (cut-off date of the interim analysis), the remaining participants provided biopsies of all injection sites for histopathological analysis.

All reported pre-defined local adverse events related to injection or sham were transient and mainly mild in intensity only. No other related local or systemic adverse events were reported. No clinically relevant abnormal laboratory results or abnormal vital signs were reported up to the cut-off date of this interim analysis. Histopathological assessments of treatment evaluation site biopsies were all judged to be normal by a blinded investigator.

Competition

The facial injectables market comprises four product types: botulinum toxin, hyaluronic acid, fillers (particle and polymer fillers, collagen) and stem cells. These injectables can be used in the facial area to correct facial lines and folds and to rejuvenate and add volume to the face. As effective as they may be at treating wrinkles, fillers have a risk of allergic reaction and the formation of tiny bumps under the skin. A bluish skin discoloration known as the Tyndall effect is also possible. The color change can last for several months, but there are treatments available. In very rare cases, skin cells may die if the wrinkle fillers are not used properly. Typically, the wrinkle fillers with longer-lasting effects are the ones more likely to cause side effects.

Fibrocell Sciences has an approved fibroblast therapy for skin aging. Their FDA-approved autologous fibroblast cellular product for improving the appearance of moderate to severe nasolabial fold wrinkles (smile lines) in adults is called LAVIV® (azfice1-T). We believe our source cells and manufacturing technology is disruptive both in duration of time to replicate the cells and in the amount of collagen and extracellular matrix expressed.

Background

Androgenetic alopecia (pattern hair loss) can affect up to 70% of men and 40% of women during the course of their lives. Although it is not a disease that causes physical pain, it does cause mental pain. Currently, over \$3 billion is spent each year on hair loss treatments that provide limited results. Androgenetic alopecia is largely an inherited disease. It can be inherited by males and females from either the mother's or father's side of the family. Women with this trait develop thinning hair, but do not commonly become completely bald.

Androgenetic alopecia is a process by which hair follicles shrink and produce smaller hairs thus reducing hair density. These miniaturized hair fibers have a shorter growth cycle and are structurally smaller. They produce thinner and shorter hair, which results in less scalp coverage. Eventually these follicles can regress to a state where they produce no hair at all.

Treatment

We believe our dermal sheath cup (DSC) cell therapy offers several advantages over current hair loss solutions. The current gold standard in hair loss treatment is hair transplant surgery which requires the surgical removal of a prominent band of hair-bearing scalp or multiple micro-biopsies from the back of the head. This band of resected tissue or biopsies are then dissected into hair follicles consisting of one to three hairs which are then implanted into balding areas on the scalp. Often a number of similar procedures are required to achieve the desired result and the patient is limited by the number of hairs that can be redistributed. In contrast, RCH-01 involves the extraction of as few as 20 hair follicles from the back of the patient's scalp where healthy cycling hair follicles reside. We believe these cells are responsible for the continued health of the hair follicle and the normal cycling of the hair fiber. DSC cells are isolated from the hair follicles and are then replicated in culture at a cGMP compliant facility utilizing our proprietary cellular replication process, and are then reintroduced back into balding areas on a patient's scalp. The implanted cells are expected to rejuvenate damaged quiescent hair follicles leading to the growth of new healthy hair fibers. The anticipated long-term result of RCH-01 injections is the restoration and maintenance of a patient's hair.

Phase I Clinical Trial

The primary protocol objective of the study was to assess the local (at treatment sites) safety profile of injections of autologous DSC cells at six months post-injection compared to placebo. Secondary protocol objectives were to assess systemic (overall) safety and efficacy (hair growth at treatment sites) at six months post-injection and local safety at 24 months post-injection. The six-month interim analysis was designed to provide us with safety information to support the regulatory filing for a phase II clinical trial. The six-month interim analysis results support the continued development of DSC cells for the treatment of androgenetic alopecia. Participants of the phase I clinical trial are being followed for five years. The primary objective of the study was to provide long-term safety profile of injections of cultured DSC cells five years after injection compared to control.

In March 2017, we successfully completed our first-in-human clinical study of our autologous cell therapy for the treatment of androgenetic alopecia (pattern baldness).

Safety

The five-year trial data set has confirmed the complete safety profile of a high-dose of dermal sheath cup cells (DSCC) for patients with pattern baldness due to androgenetic alopecia.

These DSCC form the basis for our company's RCH-01 product. The long-term safety of DSCC injections was demonstrated through multiple physician, patient and independent measures of local and systemic tolerance including evaluation of adverse events with respect to causality, incidence, severity and seriousness. No serious adverse events were reported over the entire 60.5 -month follow-up period of the trial. Local injection tolerance was confirmed with only a few minor scalp irritations reported around injection sites that resolved quickly soon after injection. Furthermore, histopathological evaluation of injection site biopsies taken six, 12, and 24 months after injection did not reveal any pathology that was suggestive of tumour, granuloma or foreign body formation. An analysis of injection site biopsies taken 60.5 months after injection is currently ongoing with results expected in the next few weeks. Long-term systemic safety of RCH-01 was also confirmed as none of the systemic adverse events reported during the extended safety evaluation were related to treatment.

The seven top-tier responders in the trial saw >10% increase in hair density at six months post-injection (see May 17, 2012 announcement). At 24 months, the average hair density increase for these same seven participants was 8.3% over baseline, and three of these seven trial participants maintained a >10% increase in density over baseline. The largest increase in hair density over baseline observed in this group was a 21% increase at 24 months.

The top 10 participants reported at least a 5% or greater increase in hair density at six months post injection with an average increase of 11.8% (as reported in the May 17, 2012 announcement). This group demonstrated a sustained response at 24 months which averaged a 4.2% increase over baseline hair density. While there was a high degree of variability in hair density between individual participants at 24 months post-injection compared to baseline, an overall stabilization of hair loss was observed among all the patients treated per protocol.

Indications of Potential Efficacy

The trial was designed to gather data related to the product's potential efficacy through 24 months post-injection, but was not designed for statistical significance related to any efficacy endpoints. The efficacy data collected from all 19 patients, while not statistically significant, provides useful and potentially exciting insights into the product's potential for the treatment of those with androgenetic alopecia.

Proposed Phase 2 Clinical Trial

We are preparing a clinical trial application seeking clearance to conduct a phase 2 dose-finding trial of RCH-01. We expect to file this clinical trial application with the German Competent Authority, the Paul-Ehrlich-Institute. The proposed trial design will involve male subjects in good health with mild to moderate androgenetic alopecia. After injections of RCH-01 are performed, subjects will return to the clinic for assessment of total, terminal and vellus hair density and cumulative hair thickness, as well as safety. The primary endpoint of efficacy will be measured at 12 months post final injection. Before we file this clinical trial application, we may await the results of some basic research our company is sponsoring at the University of British Columbia.

Collaboration Agreement

We have entered into a Collaboration and Technology Transfer Agreement with Shiseido, one of the world's largest cosmetic companies. Both companies will work towards establishing a clinical research program in Asia, with the goal of increasing the available human clinical data on RCH-01. We anticipate that collaborative technology transfer will continue between the companies as any new improvements to the RCH-01 technology are developed by either party. This agreement gives Shiseido an exclusive geographic license to use our RCH-01 hair regeneration technology in Japan, China, South Korea, Taiwan and the ASEAN countries representing a population of approximately 2.1 billion people. In mid-2016, Shiseido alleged that our company breached the agreement and resulted in a termination of the agreement. We have vigorously denied the existence of any breach of the agreement and believe that the agreement is still in good standing. No litigation, arbitration or other dispute mechanisms has been triggered by either party and our management is actively seeking to continue discussions and/or negotiations with Shiseido to resolve the matter. In mid-2016, Shiseido announced the commencement of a hospital-sponsored clinical study of RCH-01 in Japan funded by Shiseido. The clinical data produced in such a trial would, by agreement, be made available to our company.

Intellectual Property

We have also filed patents on the use of hair follicle derived stem cells entitled “Method for isolating hair follicle mesenchymal stem cells”. This family of patents describes methods for isolating stem cells from hair follicles, and the growth and use of these stem cells for the treatment of a variety of medical conditions (including hair loss). Within this portfolio, there are granted patents in Australia (AU 2003246521), Europe (EP1 509 597 B1), the United States (8,431,400) and Canada (2,488,057). Additional related patent applications are also pending in other jurisdictions.

We have also filed patent applications on: 1) other types of cell compositions (see *e.g.*, granted patents EP 2,362,776 B1, and US 8,932,582); 2) injection devices (see *e.g.*, granted patent EP 2,623,146 and published PCT application WO 2013/113121); 3) compositions and methods for treating and repairing tendons (see, *e.g.*, published PCT application WO 2014/127047); and 4) compositions and methods for treating skin (see *e.g.*, published PCT application WO 2014/205142). Additional related patent applications are also pending in a variety of jurisdictions.

Competition

There are many current hair loss treatments available.

Medical hair restoration consists of a variety of surgical hair restoration treatments designed to reduce baldness. Follicular unit hair transplant surgery is by far the dominant hair restoration treatment and involves the surgical removal of large portions of hair-bearing scalp from the back of the head. These sections of scalp skin are then dissected by hand into smaller hair follicle clusters or even single follicles (follicular units) and transplanted to the balding areas of a patient’s scalp.

Follicular unit extraction is another type of hair transplant technique in which a small round punch is used to extract follicular units from a patient’s baldness-resistant donor areas. These 1-, 2-, 3- and 4-hair follicular unit grafts are then transplanted into a patient’s balding areas. This is a time consuming and tedious procedure and a physician is often limited to transplanting 500 to 600 follicular unit grafts in one day. While the FUE procedure has grown in popularity, largely due to the minimally invasive way in which follicular unit grafts are removed, the standard strip excision method is still the leading hair transplant procedure accounting for 77.5% of surgical hair restoration procedures according to the International Society of Hair Restoration Surgery’s 2011 practice census results.

There are only two drug hair restoration treatments approved by the United States Food and Drug Administration are available today: minoxidil and finasteride. Minoxidil is marketed as Rogaine® and finasteride is marketed as Propecia®. These two products can be effective in hair loss prevention and may grow new hair. However, once a patient begins using Rogaine® or Propecia®, he or she must continue to use the products indefinitely. As with any drug, adverse reactions can sometimes occur.

Histogen is developing a hair stimulating complex that is based on the products of newborn cells grown under embryonic conditions. Histogen completed a 26 male-subject clinical trial on its hair stimulating complex. This double-blind, placebo-controlled study evaluated the safety in the clinical application of the product as an injectable for hair growth. No adverse events were seen at any time point, including the one year follow-up. In October 2012, Histogen announced initial results from its Phase 1/2 clinical trial stating that a significant improvement was seen across all targeted hair growth parameters with an 86% responder rate. The double-blind trial was undertaken to further examine the safety and efficacy of intradermal injections of their hair stimulating complex in 56 men with androgenetic alopecia.

Follica Inc. is developing a treatment that stimulates the re-growth of hair follicles by harnessing their natural wound-healing response.

RCI-02: Dermal Injector Device

Background

To support our RCH-01 and RCS-01 products, we are developing a second generation dermal injector device. The RCI-02 Injector, now in production design, will be able to deliver programmable volumes of substances into programed depths to specific layers of the skin in a constant form with minimal pressure or shear stress, ensuring the injected substance is viable and healthy after application. By improving the conditions of substance delivery, we improve the chances of success in the treatment of the patient. A significant feature of the new device is the incorporation of a cooling element at the injection site, thus removing the need for an anesthetic. This is a significant improvement over current syringe-type devices where an anesthetic is required prior to injection.

The RCI-02 is a motorized injection device with programmable depth and volume, a built-in Peltier element for pre-injection anaesthetising, and interchangeable needle head configurations. It is designed to deliver a variety of injectable substances including cells, dermal fillers, drugs or biologics intradermally (dermis), subcutaneously (fat) or intramuscularly (muscle) via an array of needle configurations ranging from a single needle to a 16 needle configuration (4x4) on one head. These interchangeable heads can be used to perform a variety of procedures, increase surface area coverage and speed-up procedure times. By relying on electrical power (instead of thumb pressure) and digital controls, RCI-02 automates and simplifies the injection process. Equipped with a touch screen on its accompanying docking station, the device's programmability allows for the delivery of precise quantities of material, at specific depths, through fine-gauge needles, on a single plain or trailing through multi-planes as the needle retracts through the skin.

Overall benefits of our dermal injector technology include improved handling, reduction or elimination of the need for local anesthetic, quicker procedure times, an expectation of more consistent clinical results because of the injector's controls, and a significant expansion of the areas that can be addressed with dermal fillers due to the ability to conduct broad, shallow, and evenly-dispersed injections. We believe that this device will have applications in certain other dermatological procedures requiring injections of specific volumes of material at specific depths and as such, will look at licensing opportunities in these areas. In addition to the programmable variables of volume and depth, the device will also have interchangeable heads for different injection procedures (single and multi-needle). In February 2017, we entered into agreements with two European firms, AMI and Art of Technology, both of whom have committed to work with our company to get our commerce-grade RCI-02 dermal injector prototypes manufactured and tested.

AMI is an Austrian manufacturer of medical technology based near the shores of Lake Constance, within easy reach of Germany and Switzerland. AMI develops, manufactures and distributes their medical products throughout the world. All of them are made according to the highest quality standards and enable doctors to take even better care of their patients.

Art of Technology, based in Zurich Switzerland is an independent contract developer specializing in the design, development and miniaturization of complex customer specific electronic devices and embedded systems for use in industrial, medical and space applications. Certified in accordance with ISO9001 and ISO13485, the firm emphasizes consistent quality documentation throughout the duration of a project including risk analysis, management and technical documentation to support CE approval.

Intellectual Property

In January 2016, we were granted a patent (EP2623146) by the European Patent Office for our injection device technologies. In January 2017, we were granted two patents in Europe related to our multi-needle dermal injection technologies. The first patent, European Patent No. 2623146, has been validated in a total of fourteen national countries, including Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Spain, Switzerland, Sweden and the United Kingdom. The second patent, European Patent No. 2809381, will also be validated in a number of European countries in the near future. In April 2017, the U.S. Patent and Trademark Office granted a patent in the United States (U.S. Patent No. 9,616,182).

Competition

Launched in 2009, the Restylane® Injector offers even volume distribution, improved ergonomics over syringes, better depth control and preloaded devices. The injector is preloaded with 200 controlled doses of 10 µl per injection. The injector is used for Restylane Skinboosters Vital and Restylane Skinboosters Vital Light.

The Anteis Injection System was launched in 2010 by Anteis, a Swiss company focused on developing aesthetic dermatology products and ophthalmology devices. They have developed an automated injection device for local injections of Anteis aesthetic products (fillers and rejuvenation products). It features depth control, injection speed and volume control helping to reduce pain, bruising and swelling. A 32 gage needle is used for injections which helps to further reduce pain and the need for an anesthetic before treatment. The device received the Frost & Sullivan 2011 European New Product Innovation Award and the Reddot Design Award in 2010.

C. Organizational Structure

We currently have one wholly-owned subsidiary, TrichoScience. TrichoScience is federally incorporated under the *Business Corporations Act* (Canada).

D. Property, Plant and Equipment

Our head office is located at Suite 900 – 570 Granville Street, Vancouver, BC V6C 3P1. We rent this space on a month to month basis at \$1,500 per month. We formerly rented space at Suite 2020 - 401 West Georgia Street, Vancouver, BC V6B 5A1 pursuant to a lease agreement for the office premises, the term for which expires on October 31, 2017. We executed a sub-lease and assigned the lease to a sub-tenant in July 2016 for almost 100% cost recovery. Research and development is being conducted under contract with the University of British Columbia by Kevin McElwee, PhD at the UBC Dermatology facilities in Vancouver, British Columbia, Canada and by Dr. Rolf Hoffmann in Germany. We have no current plans to construct or lease dedicated laboratory facilities.

ITEM 4A Unresolved Staff Comments

Not applicable.

ITEM 5 Operating and Financial Review and Prospects

The information in this section is presented in accordance with IFRS for 2016, 2015 and 2014. IFRS differs in certain significant respects from U.S. GAAP. Historical results of operations, percentage relationships and any trends that may be inferred therefrom are not necessarily indicative of the operating results of any future period.

A. Operating Results

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

	Year ended December 31,		Change 2016 to 2015	
	2016 (\$)	2015 (\$)	Increase/ (Decrease) (\$)	Percent Change
Revenue				
Licensing fees	-	-	-	-
Expenses				
Research and development	1,115,063	2,319,830	(1,204,767)	(51%)
General and administrative	3,172,565	2,727,098	445,467	16%
Other items	(16,334)	(2,914)	(13,420)	460%
Total loss	(4,271,294)	(5,044,014)	(772,720)	(15%)

Research and development expenses totaled \$1,115,063 for the year ended December 31, 2016 compared to \$2,319,830 for the year ended December 31, 2015. Research expense for the year ended December 31, 2016 was \$366,426 compared to \$1,535,094 in the prior year period. The decrease was the result of the lack of spending on research and development, including development of the RCI-02 injector device prototype and the improvements in the cell replication process for RCH-01, due to the lack of financial resources. During the year ended December 31, 2016, the Company incurred costs of \$748,637 relating to our clinical trials compared to \$784,736 for the year ended December 31, 2015. Our company had expended about the same amount for entering into the clinical stage for our RCT-01 and RCS-01 products.

General and administrative expenses totaled \$3,172,565 for the year ended December 31, 2016 compared to \$2,727,098 for the year ended December 31, 2015. The increase of \$445,467 is primarily attributable to an increase in stock based compensation from \$131,714 for the year ended December 31, 2015 to \$826,307 for the year ended December 31, 2016. The overall increase in stock-based compensation expense in 2016 compared to 2015 was primarily due the granting of stock options in 2016. In addition, we increased spending on marketing and investor relations from \$379,705 for the year ended December 31, 2015 to \$1,150,807 for the same time period in 2016. This is offset by a decrease in spending in other overhead categories such as salaries where it has decreased from \$887,343 for 2015 to \$393,138 for the year ended December 31, 2016.

Total comprehensive loss for the year ended December 31, 2016 was \$4,271,294, or \$0.54 per share on a basic and diluted basis, compared to a net loss of \$5,044,014, or \$0.92 per share on a basic and diluted basis, for the year ended December 31, 2015. The decrease in operating loss was due primarily due to financial constraints and cut-back on overhead on research and development expenses.

Year Ended December 31, 2015 Compared to Year Ended December 31, 2014

	Year ended December 31,		Change 2015 to 2014	
	2015 (\$)	2014 (\$)	Increase/ Decrease) (\$)	Percent Change
Revenue				
Licensing fees	-	-	-	-
Expenses				
Research and development	2,319,830	1,942,877	376,953	19%
General and administrative	2,727,098	3,267,739	(540,641)	(17)%
Other items	(2,914)	(12,205)	9,291	(76)%
Total loss	(5,044,014)	(5,198,411)	154,397	(3)%

Research and development expenses totaled \$2,319,830 for the year ended December 31, 2015 compared to \$1,942,877 for the year ended December 31, 2014. Research expense for the year ended December 31, 2015 was \$1,535,094 compared to \$1,469,196 in the prior year period. The increase was the result of the development of the RCI-02 injector device prototype include intellectual property costs and the improvements in the cell replication process for RCH-01. During the year ended December 31, 2015, the Company incurred costs of \$784,736 relating to our clinical trials compared to \$473,681 for the year ended December 31, 2014. The increase was the result of entering into the clinical stage for our RCT-01 and RCS-01 products.

General and administrative expenses totaled \$2,727,098 for the year ended December 31, 2015 compared to \$3,267,739 for the year ended December 31, 2014. The decrease is primarily attributable to a decrease in stock based compensation from \$784,395 for the year ended December 31, 2014 to \$131,714 for the year ended December 31, 2015. The overall decrease in stock-based compensation expense in 2015 compared to 2014 was primarily due to the vesting of options in 2014.

Total comprehensive loss for the year ended December 31, 2015 was \$5,044,014, or \$0.09 per share on a basic and diluted basis, compared to a net loss of \$5,198,411, or \$0.10 per share on a basic and diluted basis, for the year ended December 31, 2014.

B. Liquidity and Capital Resources

Our annual audited consolidated financial statements have been prepared on a going concern basis which assumes that we will continue to realize our assets and discharge our obligations and commitments in the normal course of operations. At December 31, 2016, we had accumulated \$4,120,400 in revenue from our business, had an accumulated deficit of \$24,775,687 since incorporation and expected to incur further losses in the development of our business, which casts substantial doubt about our ability to continue as a going concern. At December 31, 2016, we had a working capital surplus of \$1,191,130. Additional working capital will be required for research and development along with general and administrative expenses and to further our business plans. Our financial statements do not include any adjustments relating to the recoverability and classification of recorded assets, or the amounts of and classification of liabilities that might be necessary in the event that we cannot continue as a going concern.

Our ability to continue as a going concern is dependent upon our ability to generate future profitable operations and/or to obtain the necessary financing to meet our obligations and repay our liabilities arising from normal business operations when they come due. We have financed our operations to date through the issuance of equity. The continued volatility in the financial equity markets may make it difficult to continue to raise funds by equity private placements. There is no assurance that we will be successful with our financing ventures.

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

Operating Activities

During the year ended December 31, 2016, \$3,544,186 was used in net cash from operating activities compared to \$4,361,430 of cash used in operating activities for the year ended December 31, 2015. The decrease in cash used by operating activities was a result of a decrease in net loss with the stock-based compensation in the amount of \$826,307 compared to \$131,714 in 2015.

Investing Activities

During the year ended December 31, 2016, the net cash used in investing activities was \$1,450,000 compared to net cash provided by investing activities of \$1,497,808 for the year ended December 31, 2015. Investing activities relate primarily to the redemption of a guaranteed investment certificate in 2015.

Financing Activities

During the year ended December 31, 2016, the Company completed private placements and the issuance of shares for debt for total gross proceeds of \$4,848,524. Finder's fees of \$214,374 were paid in connection with these private placements. During the year ended December 31, 2015, the Company completed private placements for total gross proceeds of \$2,645,256. Finder's fees of \$140,960 were paid in connection with these private placements.

Year Ended December 31, 2015 Compared to Year Ended December 31, 2014

Operating Activities

During the year ended December 31, 2015, \$4,361,430 was used in net cash from operating activities compared to \$4,445,854 of cash provided in operating activities for the year ended December 31, 2014. The decrease in cash used by operating activities was a result of an increase in the accounts payable balance offset with a decrease in the prepaid expenses and deposits balance.

Investing Activities

During the year ended December 31, 2015, the net cash provided in investing activities was \$1,497,808 compared to net cash used in investing activities of \$1,510,165 for the year ended December 31, 2014. Investing activities relate solely to the purchase of equipment and the redemption of a Guaranteed Investment Certificate.

Financing Activities

During the year ended December 31, 2015, the Company completed private placements for total gross proceeds of \$2,645,256. Finder's fees of \$140,960 were paid in connection with these private placements. During the year ended December 31, 2014, the Company issued 1,508,512 common shares at a price of US\$0.50 per share for gross proceeds of \$834,218 in connection with the exercise of share purchase warrants. In addition, the Company completed private placements for total gross proceeds of \$3,990,125. Finder's fees of \$291,215 were paid in connection with these private placements. Additional working capital will be required for general and administrative expenses and to further our business plans.

Going Concern

Due to the uncertainty of our ability to meet our current operating and capital expenses, in the auditor's report on our annual audited consolidated financial statements for the year ended December 31, 2016, our auditors included an explanatory paragraph on their report in respect of there being substantial doubt about our ability to continue as a going concern.

We anticipate that we will require a minimum of approximately \$2,100,000 to proceed with a minimal plan of operations and approximately \$5,200,000 to fund our full plan of operations for the twelve-month period ended April 30, 2018. We have no current material commitments for capital expenditures.

We do not currently have sufficient capital resources to fund our plan of operations for the next twelve months. Accordingly, we plan to raise additional capital through the sale of debt or equity securities or through other forms of financing in order to raise the funds necessary to pursue our plan of operations. We currently do not have any arrangements in place for the completion of any financings and there is no assurance that we will be successful in completing any financings. There can be no assurance that additional financing will be available when needed or, if available, on commercially reasonable terms. If we are not able to obtain additional financing on a timely basis, we may not be able to pursue our plan of operations or meet our obligations as they come due, and may be forced to scale down, or perhaps even cease, business operations.

Cash on hand and guaranteed investment certificates are currently our only source of liquidity. We do not have any lending arrangements in place with banking or financial institutions and we do not know whether we will be able to secure such funding arrangements in the near future.

Critical Accounting Policies and Estimates

We make estimates and assumptions about the future that affect the reported amounts of assets and liabilities. Estimates and judgments are continually evaluated based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. In the future, actual experience may differ from these estimates and assumptions.

The effect of a change in an accounting estimate is recognized prospectively by including it in comprehensive income in the period of the change, if the change affects that period only, or in the period of the change and future periods, if the change affects both.

Information about critical judgments in applying accounting policies that have the most significant risk of causing material adjustment to the amounts reported in our annual audited financial statements for the year ended December 31, 2016 are as follows:

Share Based Payments and Derivatives Liabilities related to Equities

We measure the cost of equity-settled transactions with employees by reference to the fair value of the equity instruments at the date at which they are granted. Estimating fair value for share-based payment transactions requires determining the most appropriate valuation model, which is dependent on the terms and conditions of the grant. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life of the share option, volatility and dividend yield and making assumptions about them. The assumptions and models used for estimating the fair value for share-based payment transactions are disclosed in Note 8(d) of our annual audited financial statements for the year ended December 31, 2016.

Similar methodology to the share-based payments is used to determine the fair value of derivative liabilities related to warrants denominated in U.S. dollars. The assumptions and models used for estimating the fair value for derivative liabilities are disclosed in Note 8(g) to our annual audited financial statements for the year ended December 31, 2016.

Income Taxes

Significant judgment is required in determining the provision for income taxes. There are many transactions and calculations undertaken during the ordinary course of business for which the ultimate tax determination is uncertain. We recognize liabilities and contingencies for anticipated tax audit issues based on our current understanding of the tax law. For matters where it is probable that an adjustment will be made, we record our best estimate of the tax liability including the related interest and penalties in the current tax provision. Our management believes they have adequately provided for the probable outcome of these matters; however, the final outcome may result in a materially different outcome than the amount included in the tax liabilities.

In addition, we will recognize deferred tax assets relating to tax losses carried forward to the extent there are sufficient taxable temporary differences relating to the same taxation authority and the same taxable entity against which the unused tax losses can be utilized. However, utilization of the tax losses also depends on the ability of the taxable entity to satisfy certain tests at the time the losses are recouped.

C. Research and Development, Patents and Licenses etc.

Research and development expenses totaled \$1,115,063 for the year ended December 31, 2016 compared to \$2,319,830 for the year ended December 31, 2015. Research expense for the year ended December 31, 2016 was \$366,426 compared to \$1,535,094 in the prior year period. The decrease was the result of the lack of spending on research and development, including development of the RCI-02 injector device prototype and the improvements in the cell replication process for RCH-01, due to the lack of financial resources. During the year ended December 31, 2016, the Company incurred costs of \$784,637 relating to our clinical trials compared to \$784,736 for the year ended December 31, 2015. Our company had expended about the same amount for entering into the clinical stage for our RCT-01 and RCS-01 products.

D. Trend Information

We do not currently know of any trends, uncertainties, demands, commitments or events that are reasonably likely to have a material effect on our net sales or revenue, income from continuing operations, profitability, liquidity or capital resources, or that would cause reported financial information not necessarily to be indicative of future operating results or financial condition.

E. Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to investors.

F. Contractual Obligations

Our only long-term contractual obligation is an operating lease agreement for our office premises which was assigned to a sub-tenant in July 2016 for almost 100% cost recovery. The term of the lease was for three years with it ending on October 31, 2017 and the annual commitment for 2017 is \$119,756.

G. Safe Harbor

Not applicable.

ITEM 6 Directors, Senior Management and Employees

A. Directors and Senior Management

There are no family relationships between any of the directors, senior management or employees. We have no arrangement or understanding with any major shareholders or other persons pursuant to which any of our directors or officers was selected as a director or officer. The following table sets out information regarding our directors and senior management, and any employees upon whose work our company is dependent.

Name and Age	Present Position with our Company	Age	Date of Commencement with our Company
Lee Buckler	Director, Chief Executive Officer and President Corporate Secretary	50	January 1, 2016 June 13, 2016
Tom Kordyback	Chief Financial Officer	65	August 22, 2011
Dr. Rolf Hoffmann	Chief Medical Officer	55	December 22, 2010
Dr. Kevin McElwee	Chief Scientific Officer	46	December 22, 2010
David Hall ⁽¹⁾	Director Chairman of the Board	63	December 22, 2010 January 1, 2016
John Challis ⁽¹⁾	Director	70	March 11, 2011
Peter Lewis ⁽¹⁾	Director	61	May 27, 2011
Geoff Mackay ⁽¹⁾	Director	51	October 14, 2015
Hugh Rogers	Director	37	February 3, 2017
Simon Ma	Director of Finance	52	June 13, 2016

⁽¹⁾ Member of the audit committee and nominating, compensation and corporate governance committee.

Lee Buckler, B.Ed, LLB – Chief Executive Officer, President, Corporate Secretary and Director

Mr. Buckler has been an executive in the cell therapy sector since 2000 beginning with Malachite Management in the Stem Cell Technologies group of companies. Most recently he was the Managing Director of Cell Therapy Group, a firm he formed in 2008 where he did business development consulting for companies and organizations in or interested in the cell therapy sector. His work included deal-targeting, transactions, market intelligence, competitive analyses, strategic assessments, and market profile planning for companies ranging from top-tier multinationals to start-ups. Mr. Buckler has a Bachelor's Degree in Education and a Law Degree. After law school, he did a one year judicial clerkship with the B.C. Supreme Court and was a practicing attorney for three years at Edwards, Kenny & Bray. Mr. Buckler served six years as the Executive Director of the International Society for Cellular Therapy and just over two years as Director of Business Development for Progenitor Cell Therapy. He is on the editorial advisory boards of the journal Regenerative Medicine and the BioProcess International magazine and is a member of the Alliance for Regenerative Medicine's Communications and Education Committee. He co-founded Cell Therapy News, founded Cell Therapy Blog, founded and continues to manage the LinkedIn Cell Therapy Industry Group, co-founded Regenerative Medicine Jobs, and is an active industry commentator in publications and in social media. Mr. Buckler serves on numerous industry conference advisory boards, is an advisory board member for BioCision and RoosterBio.

Tom Kordyback, CA – Chief Financial Officer

Mr. Kordyback has over 25 years of experience in corporate finance and management for emerging growth companies. He has held senior financial positions with Glenayre Electronics Inc. and Telelink Communications Inc. In 1995, he joined Creo Inc. as their Chief Financial Officer where he oversaw private financings totaling more than \$80 million and led the company's Initial Public Offering on the NASDAQ stock exchange for \$90 million. He remained at Creo until 2000. Mr. Kordyback also served as a director and member of the Audit, Compensation and Merger and Acquisitions Committees for Extreme CCTV Inc., a developer and manufacturer of state-of-the-art surveillance systems listed on the TSX. In 2008, the company was sold to Bosch Security Systems, Inc. for CDN \$93 million. Mr. Kordyback currently serves as director of Silver Sun Resources Corp., a public Canadian-based resource company.

Prof. Rolf Hoffmann, MD – Chief Medical Officer

Dr. Hoffmann is a European-based clinical researcher who has spent decades researching the fields of pattern hair loss, alopecia areata, endocrinology of the hair follicle and hair follicle morphogenesis. Together with Dr. McElwee, he is the applicant of a landmark patent on the use of hair follicle cup cells and their use in hair diseases. He is working clinically in his private practice, as a teaching professor in the Department of Dermatology for Marburg University, Germany, as well as a researcher on histopathologically on hair diseases, where he has published chapters in text books. Dr. Hoffmann has participated in dozens of clinical hair studies and consulted for a variety of large companies on hair matters. He is the inventor of TrichoScan®, a computerized technique to measure hair growth. Since then, he has run a successful privately owned company to market the device for dermatologists and to offer it as a service for clinical trials.

Dr. Kevin McElwee, PhD – Chief Scientific Officer

Dr. McElwee is an Associate Professor in the Department of Dermatology and Skin Health at the University of British Columbia, and Director of the Hair Research Laboratory in the Vancouver Coastal Health Research Institute at Vancouver General Hospital (VGH). His research is funded by competitive grants awarded by multiple organizations including the Canadian Institute for Health Research (the equivalent of the National Institute for Health in the USA). Dr. McElwee is one of only a small group of research scientists worldwide who studies hair biology and associated diseases. He has worked as a hair research scientist for 12 years and has published over 70 medical journal articles, research abstracts and academic book chapters on hair loss research. Dr. McElwee received his Bachelor of Science degree from the University of Aberdeen, Scotland and his PhD from the University of Dundee, Scotland. Postdoctoral training included three years at the Jackson Laboratory in Maine, USA and four years at the University of Marburg, Germany, studying various hair loss diseases

David Hall – Chairman of the Board and Director

Mr. Hall has almost two decades of experience in the life sciences industry. From 1994 through 2008, he served in roles as Chief Financial Officer, Chief Compliance Officer and Senior Vice President of Government & Community Relations for Angiotech Pharmaceuticals Inc. He also acted as the Corporate Secretary and Treasurer of Angiotech. Mr. Hall is highly committed to governmental policy issues related to the biotech industry. He is a past Chairman of Life Sciences BC and currently serves as a director of Advantage BC. He has served as the Chairman of the Biotech Industry Advisory Committee to the BC Competition Council and as a member of the BC Task Force on PharmaCare. Mr. Hall is also a member of the University of British Columbia's Tech Equity Investment Committee, a director and Chairman of the Audit Committee of GLG Lifetech Corporation.

John Challis – Director

Dr. Challis is the past President and CEO of the Michael Smith Foundation for Health Research, British Columbia's health research funding organization. Dr. Challis received his PhD from the University of Cambridge and began his career as a research scientist at the University of Oxford. In 1976, he came to Canada as a faculty member at McGill University and joined the faculty at the University of Western Ontario two years later. Dr. Challis served as founding Scientific Director of the Lawson Research Institute at St. Joseph's Health Centre and as the Centre's Vice-President (Research). In 1995, he joined the University of Toronto as Professor and Chair of the Department of Physiology and in 2001 he was appointed the founding Scientific Director of the Canadian Institute of Health Research, Institute of Human Development, Child and Youth Health. Dr. Challis served as Vice-President, Research and Associate Provost at the University of Toronto between 2003 and 2007.

In 2007, Dr. Challis was awarded the McLaughlin Medal from the Royal Society of Canada for important research of sustained excellence in medical science. In March 2009, Dr. Challis received the President's Distinguished Scientist Award from the Society for Gynaecologic Investigation (SGI). Currently, he holds the rank of University Professor Emeritus, University of Toronto, Departments of Physiology, Medicine and Obstetrics and Gynaecology. Dr. Challis is an internationally-recognized researcher in the fields of physiology, obstetrics and gynaecology. He is a Fellow of the Royal Society of Canada, Fellow of the Royal College of Obstetricians and Gynecologists, and Fellow of the Canadian Academy of Health Sciences. He has published more than 500 scientific papers and articles, trained more than 70 graduate students and postdoctoral fellows and has served as President of several professional associations in his field of research.

Peter Lewis, CA – Director

Mr. Lewis is a partner with Lewis and Company, a firm specializing in taxation law since 1993. His areas of expertise include tax planning, acquisitions and divestitures, reorganizations and estate planning. He is a sought after educator, having taught and presented taxation courses at the Institute of Chartered Accountants of British Columbia and the Canadian Tax Foundation.

Geoff MacKay – Director

Mr. MacKay is a skilled biopharmaceutical executive focused in the field of regenerative medicine for the past 20 years. Mr. MacKay is currently CEO of AVROBIO Inc., a clinical stage company focused on delivering step-change cell & gene therapies targeting cancer and rare disease. Previously, he spent 11 years as CEO of Organogenesis Inc. He is credited with helping build Organogenesis into the leading cell therapy business in the world as measured by revenue, patients treated, FDA indications and overall scale of operations. Mr. MacKay also has a strong pharma heritage, having spent 11 years at Novartis where he held senior leadership positions within the Immunology franchise in Canada, USA and at the Global office in Basel Switzerland.

Mr. MacKay has broad international experience and contacts across pharma, biotech and device industries via leadership roles within the life science industry. Examples include: Chairman of the Board of MassBio, Chairman of the Board of the Alliance of Regenerative Medicine, Advisory Council to the Health Policy Commission for Massachusetts, Deans Advisory Council Western University School of Podiatric Surgery, and Chairman of Audit Committee of the Center for Commercialization of Regenerative Medicine (C.C.R.M.).

Hugh Rogers – Director

Mr. Rogers has extensive corporate finance and restructuring experience through his work with various TSX Venture Exchange listed issuers and private companies including his most recent roles as Chief Executive Officer of Coronado Resources Ltd. since March 2015 and Vice President Corporate Finance at 3D Signatures Inc. since April 2015. His corporate finance, restructuring and regulatory experience has been primarily focused on start-ups and small cap companies in the resource and biotechnology industries. Mr. Rogers also serves as a Director of Kootenay Zinc Corp. and Coronado Resources Ltd.

Simon Ma – Director of Finance

Simon Ma is a Chartered Professional Accountant and has extensive experience with private companies as well as public companies in the resource sector. He graduated from the University of British Columbia in 1987 and obtained a degree of Bachelor of Arts in Economics after which he worked in the industry as a Controller to 1990. He started articling in 1990 and qualified as a Chartered Accountant in 1994. Simon Ma is a sole public practitioner since 1997 and is practicing under the name of Simon S. Ma Corporation. He is concurrently serving as chief financial officer of several public companies listed on the TSX Venture Exchange or Canadian Securities Exchange. These companies include North American Potash Inc., Gem International Resources Inc., E-Energy Ventures Inc., United Coal Holdings Ltd., Quanta Resources Inc., and DGS Minerals Inc. He has also been the Director of Finance for Replifel Life Sciences Inc. since June of 2016.

B. Compensation

The following table sets out the compensation provided to our directors and senior management for performance of their duties during the fiscal year ended December 31, 2016:

SUMMARY COMPENSATION TABLE									
Name and principal position	Year	Salary (\$)	Share-based awards (\$)	Option-based awards ⁽¹⁾ (\$)	Non-equity incentive compensation plan compensation		Pension value (\$)	All other Compensation (\$)	Total Compensation (\$)
					Annual incentive plans	(\$) Long-term incentive plans			
Lee Buckler ⁽²⁾ CEO, President, Corporate Secretary and Director	2016	240,000	N/A	63,000	N/A	N/A	N/A	45,000	348,000
Tom Kordyback Chief Financial Officer	2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dr. Rolf Hoffmann Chief Medical Officer	2016	N/A	N/A	31,500	N/A	N/A	N/A	N/A	31,500
Dr. Kevin McElwee Chief Scientific Officer Founder of TrichoScience	2016	N/A	N/A	31,500	N/A	N/A	N/A	N/A	31,500
David Hall Chairman and Director	2016	N/A	N/A	31,500	N/A	N/A	N/A	16,000	47,500
John Challis Director	2016	N/A	N/A	12,600	N/A	N/A	N/A	10,750 ⁽⁵⁾	23,350
Peter Lewis Director	2016	N/A	N/A	12,600	N/A	N/A	N/A	10,750 ⁽⁶⁾	23,350
Geoff MacKay Director	2016	N/A	N/A	12,600	N/A	N/A	N/A	10,750 ⁽⁷⁾	23,350
Simon Ma ⁽⁶⁾ Director of Finance	2016	26,700	N/A	N/A	N/A	N/A	N/A	N/A	26,700
Peter Jensen ⁽⁷⁾ Former Director	2016	N/A	N/A	N/A	N/A	N/A	N/A	10,000 ⁽¹⁰⁾	10,000
Brooke Hurford ⁽⁹⁾ Former Finance Director and Secretary	2016	47,500	N/A	N/A	N/A	N/A	N/A	N/A	47,500

SUMMARY COMPENSATION TABLE

Name and principal position	Year	Salary (\$)	Share-based awards (\$)	Option-based awards ⁽¹⁾ (\$)	Non-equity incentive compensation plan compensation		Pension value (\$)	All other Compensation (\$)	Total Compensation (\$)
					Annual incentive plans	(\$) Long-term incentive plans			
Darrell Panich ⁽¹⁰⁾ Former VP, Clinical Affairs	2016	30,000	N/A	8,400	N/A	N/A	N/A	N/A	38,400

- (1) The valuation of option-based awards is based on the fair value of the options at the time of the grant is based on the Black Scholes model and includes the following assumptions; weighted average risk free rate, weighted average expected life, expected volatility and dividend yield. For options that vest, only the vested options are valued. Details of options granted during 2014 are included in the table below under the heading "Share Ownership - Stock Option Plan".
- (2) Lee Buckler was appointed as the corporate secretary on June 13, 2016.
- (3) Mr. Challis earned \$10,750 in director's fees by our company for the fiscal year ended December 31, 2016.
- (4) Mr. Lewis earned \$10,750 in director's fees by our company for the fiscal year ended December 31, 2016.
- (5) Mr. MacKay earned \$10,750 in director's fees by our company for the fiscal year ended December 31, 2016.
- (6) Mr. Ma was appointed director of finance of our company on June 13, 2016.
- (7) Mr. Jensen resigned as a director of our company on June 13, 2016.
- (8) Mr. Jensen earned \$10,000 in director's fees by our company for the fiscal year ended December 31, 2016.
- (9) Ms. Hurford resigned as finance director and corporate secretary of our company on June 13, 2016.
- (10) Mr. Panich resigned as VP, Clinical Affairs of our company on March 31, 2016.

Pension, Retirement or Similar Benefits

We do not provide pension, retirement or similar benefits to directors and executive officers. No funds were set aside or accrued by our company during the fiscal year ended December 31, 2016 to provide pension, retirement or similar benefits to our directors or officers pursuant to any existing plan provided or contributed to by us or our subsidiaries.

C. Board Practices

Our directors are re-elected at the annual general meeting of our shareholders and our officers are reappointed by our board of directors at a directors' meeting following the annual general meeting. Each of our current directors and officers will hold their respective office until their successor is elected or appointed, unless such office is earlier vacated under any of the relevant provisions of our articles or the

Business Corporations Act (British Columbia).

The following sets out terms of the consulting agreement between our company and David Hall. Mr. Hall is the only director of our company who is entitled to receive benefits upon termination of employment, as described below.

Employment Agreement: Lee Buckler

Pursuant to an employment agreement, effective as of January 1, 2016, between Lee Buckler and our company, Mr. Buckler serves as President, Chief Executive Officer and Corporate Secretary of our company and TrichoScience for a base salary of \$240,000 per annum. Under the agreement, Mr. Buckler will be eligible to participate in a bonus plan as and when established by our company, which currently is anticipated to provide for bonuses based on a target bonus of 100 percent of the base salary earned by Mr. Buckler during each fiscal year in accordance with milestones to be established by our board of directors. Mr. Buckler is entitled to receive a retention bonus where our company will pay \$45,000 on the earlier of April 30, 2016 or 30 days after our company completes an equity financing with minimum gross proceeds of \$3,000,000. This was paid in 2016. Mr. Buckler may also be eligible to receive additional stock option grants or awards under other equity based incentive plans from time to time. If Mr. Buckler's employment is terminated for any reason other than for just cause, we will pay Mr. Buckler: any unpaid base salary earned but unpaid; a lump sum amount as severance compensation equal to three months of base salary for the first year of employment or a lump sum amount as severance compensation equal to twelve months of base salary after the first year of employment plus an additional two months of base salary for each full year of employment after the initial year up to a maximum of eighteen months of base salary, and a lump sum payment as compensation for the loss of Mr. Buckler's entitlement to benefits up to a maximum of \$100,000.

Consulting Agreement: David Hall

Pursuant to a consulting agreement dated January 1, 2016, David Hall provides advice and strategic guidance in connection with our company's business and advice--- regarding regulatory compliance. Our company has agreed to pay Mr. Hall compensation for such services if required.

Pursuant to a director's services agreement dated January 1, 2016, Mr. Hall serves as the chairman and a member of our board of directors. In consideration, our company has agreed to pay an annual retainer of \$15,000 to serve as the chairman, an annual retainer of \$10,000 to serve as a director, a fee of \$1,000 per board meeting, a fee of \$1,000 per Audit Committee meeting and \$1,000 per Corporate Governance Committee meeting. The consulting agreement expired on January 1, 2017.

Consulting Agreement: Darrell Panich through Ceros Management and Advisory Ltd. ("Ceros")

Pursuant to a consulting agreement dated November 14, 2016, Ceros provides the Company with clinical trial management services and guidance with respect to its businesses, and compliance with applicable regulatory requirements. Ceros's fees is based on an hourly rate of \$250.

Audit Committee

Our audit committee is comprised of Peter Lewis, John Challis, David Hall, and Geoff MacKay. The audit committee reviews and approves the scope of the audit procedures employed by our independent auditors, reviews the results of the auditor's examination, the scope of audits, the auditor's opinion on the adequacy of internal controls and quality of financial reporting and our accounting and reporting principles, policies and practices, as well as our accounting, financial and operating controls. The audit committee also reports to the board of directors with respect to such matters and recommends the selection of independent auditors. Before financial statements that are to be submitted to the shareholders at an annual general meeting are considered by the board of directors, such financial statements are submitted to the audit committee for review, following which the report of the audit committee on the financial statements is submitted to the board of directors.

Nominating, Compensation and Corporate Governance Committee

Our nominating, compensation and corporate governance committee is comprised of Peter Lewis, John Challis, and Geoff MacKay. The purpose of the nominating, compensation and corporate governance committee is to identify individuals qualified to become directors on our board of directors or any of its committees, consistent with criteria approved by our board of directors, and to select, or to recommend that our board of directors select, such director nominees, whether at the next annual meeting of the shareholders or otherwise. The committee also periodically evaluates the qualifications and independence of each director on our board of directors or its various committees and recommend to our board of directors, as the committee may deem appropriate, any recommended changes in the composition of our board of directors or any of its committees. The committee also develops and recommends to our board of directors corporate governance principles applicable to our company and annually assess the performance of our board of directors.

D. Employees

As of December 31, 2016, we had one full time employee and one contractor, the majority of which are located in Vancouver, British Columbia. These employees and contractors have expertise in biotechnology management, clinical trials, financial management and communications.

E. Share Ownership

Our directors, senior management and key employees beneficially own, directly or indirectly, the number of common shares set out in the table below:

Name and Office Held	Number of Common Shares ⁽¹⁾	Percentage of Common Shares ⁽²⁾
Lee Buckler CEO, President, Corporate Secretary and Director	3,404	*
Tom Kordyback Chief Financial Officer	13,772	*
Dr. Rolf Hoffmann Chief Medical Officer	520,698	2.8%
Dr. Kevin McElwee Chief Scientific Officer	424,172	2.3%
David Hall Chairman and Director	173,926 ⁽³⁾	*
Peter Lewis Director	5,000	*
John Challis Director	10,000	*
Geoff MacKay Director	Nil	Nil
Hugh Rogers Director	Nil	Nil
Simon Ma Director of Finance	7,700	*

* Less than 1%.

(1) Does not include options to acquire common shares of our company held by the persons set forth in the table. For a description of options held by the persons set forth in the table above, see below under the heading "Stock Option Plan".

(2) Based on 18,626,703 common shares issued and outstanding as of April 20, 2017.

(3) Does not include 100,000 common shares held by Mr. Hall's wife over which Mr. Hall does not exercise control or direction.

Stock Option Plan

On December 22, 2010, our board of directors approved the adoption of the 2010 Stock Option Plan, which was ratified and approved by our shareholders on January 5, 2011. On April 17, 2014, our board of directors approved the adoption of our 2014 Stock Option Plan (the “**2014 Plan**”), which was ratified by our shareholders on June 13, 2016.

Under the 2014 Plan the number of common shares reserved for issuance pursuant to the exercise of options granted under the 2014 Plan cannot exceed 10% of the total number of issued common shares of our company (calculated on a non-diluted basis) at the time an option is granted. The purpose of the 2014 Plan is to advance the interests of our company and its shareholders by attracting, retaining and motivating selected directors, officers, employees and consultants of our company of high caliber and potential and to encourage and enable such persons to acquire an ownership interest in our company.

The following information is intended as a brief description of the 2014 Plan:

1. Our board of directors (which for the purposes of the 2014 Plan includes any committee setup by our board of directors to govern the stock options) shall establish the exercise price at the time each option is granted, subject to the following conditions:
 - (a) if the common shares are listed on the TSX Venture Exchange, the exercise price will not be less than the minimum prevailing price permitted by the policies of the TSX Venture Exchange;
 - (b) if the common shares are not listed, posted and trading on any stock exchange or bulletin board, then the exercise price will be determined by our board of directors at the time of granting;
 - (c) if an option is granted within 90 days of a distribution by a prospectus by our company, the exercise price will not be less than the price that is the greater of the minimum prevailing price permitted by the TSX Venture Exchange policies and the per share price paid by public investors for common shares acquired under the distribution by the prospectus, with the 90 day period beginning on the date a final receipt is issued for the prospectus; and
 - (d) in all other cases, the exercise price shall be determined in accordance with the rules and regulations of any applicable regulatory bodies.
2. Upon expiry of an option, or in the event an option is otherwise terminated for any reason, without having been exercised in full, the number of common shares in respect of the expired or terminated option shall again be available for an option grant under the 2014 Plan.
3. All options granted under the 2014 Plan may not have an expiry date exceeding ten years from the date on which the option is granted.
4. Options granted to any one individual in any 12 month period cannot exceed more than 5% of the issued common shares of our company, unless our company has obtained disinterested shareholder approval.
5. Options granted to any one consultant in any 12 month period cannot exceed more than 2% of the issued common shares of our company, without the prior consent of the TSX Venture Exchange.

6. Options granted to all persons, in aggregate, conducting investor relations activities in any 12 month period cannot exceed more than 2% of the issued common shares, without the prior consent of the TSX Venture Exchange.
7. Options issued to optionees performing investor relations activities will vest in stages over 12 months with no more than one quarter of the options vesting in any three month period.
8. If a director, employee or consultant of our company is terminated for cause or resigns, then any option granted to such option holder will terminate immediately upon such option holder ceasing to be a director, employee, or consultant by reason of termination for cause or by resignation.
9. If an option holder ceases to be a director, employee or consultant of our company (other than by reason of death, disability, resignation or termination of services for cause), as the case may be, then any option granted to such option holder that had vested and was exercisable on the date of termination will expire on the earlier of the expiry date and the date that is 90 days following the date that such option holder ceases to be a director, employee or service provider of our company.
10. If an option holder dies, the option holder's lawful personal representatives, heirs or executors may exercise any option granted to such option holder that had vested and was exercisable on the date of death until the earlier of the expiry date and one year after the date of death of such option holder.
11. If an option holder ceases to be a director, employee or consultant as a result of a disability, such option holder may exercise any option granted to such option holder that had vested and was exercisable on the date of disability until the earlier of the expiry date and 90 days after the date of disability.
12. Options granted to directors, employees or consultants will vest when granted unless determined by our board of directors on a case by case basis, other than options granted to consultants performing investor relations activities, which will vest in stages over 12 months with no more than one quarter of the options vesting in any three month period.
13. Options granted under the 2014 Plan are not assignable or transferable by an option holder.
14. Our board of directors may, from time to time, subject to regulatory or shareholder approval, if required under the policies of the TSX Venture Exchange, amend or revise the terms of the 2014 Plan.

The 2014 Plan provides that other terms and conditions may be attached to a particular stock option at the discretion of our board of directors.

The following table sets forth the amount and terms of options to acquire common shares of our company we have granted to our directors, senior management and key employees:

Name and Office Held	Number of Options	Date of Grant	Exercise Price	Expiry Date
Lee Buckler CEO, President, Corporate Secretary and Director	5,000 ⁽¹⁾	July 7, 2014	\$6.60	July 7, 2019
	15,000	September 12, 2014	\$5.30	September 12, 2019
	5,000 ⁽¹⁾	October 1, 2014	\$5.50	October 1, 2019
	150,000	December 7, 2016	\$0.60	December 7, 2021

Name and Office Held	Number of Options	Date of Grant	Exercise Price	Expiry Date
Tom Kordyback Chief Financial Officer	10,000	September 5, 2013	\$5.50	September 5, 2020
Dr. Rolf Hoffmann Chief Medical Officer	35,000	December 22, 2010	US\$5.00	July 13, 2017
	75,000	December 7, 2016	\$0.60	December 7, 2021
Dr. Kevin McElwee Chief Scientific Officer	35,000	December 22, 2010	US\$5.00	July 13, 2017
	75,000	December 7, 2016	\$0.60	December 7, 2021
	10,000	September 5, 2013	\$5.50	September 5, 2020
David Hall, Director	75,000	December 7, 2016	\$0.60	December 7, 2021
John Challis Director	10,000	September 5, 2013	\$5.50	September 5, 2020
	30,000	December 7, 2016	\$0.60	December 7, 2021
Peter Lewis Director	10,000	September 5, 2013	\$5.50	September 5, 2020
	30,000	December 7, 2016	\$0.60	December 7, 2021
Geoff MacKay Director	15,000	October 14, 2015	\$3.60	October 14, 2020
	30,000	December 7, 2016	\$0.60	December 7, 2021
	100,000	September 5, 2013	\$5.50	September 5, 2020
Hugh Rogers Director	75,000	February 3, 2017	\$1.64	February 3, 2022

(1) These stock options were issued to CTG Consulting Inc., a private company wholly owned by Lee Buckler.

ITEM 7 Major Shareholders and Related Party Transactions

A. Major Shareholders

As at April 20, 2017, no were no persons known to us to be the beneficial owner of more than five percent (5%) of each class of our common shares issued and outstanding. The voting rights of our major shareholders do not differ from the voting rights of holders of our common shares who are not major shareholders.

The following table sets forth the number of our issued and outstanding common shares that are held by record holders in the United States. We have no Class A preference shares outstanding:

Class	Number of Shareholders	Total Common Shares Held	Percentage of Common Shares
Common Shares	38	474,892	2.54% ⁽¹⁾

(1) Based on 18,626,703 common shares issued and outstanding as of April 20, 2017.

To our knowledge we are not directly or indirectly owned or controlled by another company, a foreign government or any other natural or legal person, severally or jointly.

To our knowledge, there are no arrangements the operation of which may, at a subsequent date, result in a change in the control of our company.

B. Related Party Transactions

The following sets forth all material transactions and loans from January 1, 2014 to the current date between our company and: (a) enterprises that directly or indirectly through one or more intermediaries, control or are controlled by, or are under common control with, our company; (b) associates; (c) individuals owning, directly or indirectly, an interest in the voting power of our company that gives them significant influence over our company and close members of any such individuals' families; (d) key management personnel of our company, including directors and senior management of our company and close members of such individuals' families; and (e) enterprises in which a substantial interest in the voting power is owned, directly or indirectly, by any person described in (c) or (d) or over which such a person is able to exercise significant influence. For the purposes of this section, shareholders beneficially owning a 10% interest in the voting power of our company are presumed to have a significant influence.

Related party balances

The following amounts due to related parties are included in trade payables and accrued liabilities:

	December 31, 2016	December 31, 2015	December 31, 2014
Research and development fees owing to:			
Tricholog GmbH, a company controlled by Rolf Hoffmann, an officer of our company,	-	\$56,030	-
Dermaticum, a company controlled by Rolf Hoffmann, an officer of our company	-	\$1,636	-
McElwee Consulting Inc., a company controlled by Kevin McElwee, an officer of our company	\$15,250	\$15,250	-
Kevin McElwee, an officer of our company	0	-	-
General and administrative fees (salaries) owed to:			
David Hall, a director of our company	\$146,000	\$120,000	\$9,127
Lee Buckler, a director and officer of our company	\$26,354	-	-
Peter Jensen, a former director of our company	\$13,500	\$8,500	-
Peter Lewis, a director of our company	\$16,500	\$5,750	-
Geoff MacKay, a director of our company	\$13,637	\$2,887	-
John Challis, a director of our company	\$16,500	\$5,750	-
	\$247,741	\$215,803	\$9,127

These amounts are unsecured, non-interest bearing and have no fixed terms of repayment.

Related party transactions

We incurred the following transactions with companies that are controlled by directors and/or officers of our company. The transactions were measured at the amount established and agreed to by the parties.

	December 31, 2016	December 31, 2015	December 31, 2014
Research and development fees paid to:			

	December 31, 2016	December 31, 2015	December 31, 2014
Tricholog GmbH, a company controlled by Rolf Hoffmann, an officer of our company,	-	\$168,000	\$183,060
Dermaticum, a company controlled by Rolf Hoffmann, an officer of our company	-	\$5,910	\$8,736
McElwee Consulting Inc., a company controlled by Kevin McElwee, an officer of our company	-	\$60,000	\$65,762
	\$Nil	\$233,910	\$257,558

Key management compensation

Key management personnel are persons responsible for planning, directing and controlling the activities of an entity, and include executive directors, our chief executive officer and our chief financial officer. For details regarding the compensation, please see Item 6.B.

	December 31, 2016	December 31, 2015	December 31, 2014
General and administrative – salaries	\$285,000	\$578,887	\$438,500
Stock-based compensation	\$826,307	\$42,216	\$45,986
	\$1,111,307	\$621,103	\$484,486

C. Interests of Experts and Counsel

Not applicable.

ITEM 8 Financial Information

A. Financial Statements and Other Financial Information

Our financial statements are stated in Canadian dollars and are prepared in accordance with IFRS as issued by the IASB. In this Form 20-F, unless otherwise specified, all dollar amounts are expressed in Canadian dollars. Financial statements included with this annual report are listed below:

Audited Annual Financial Statements as at December 31, 2016 and 2015:

Independent Auditor’s Report of BDO Canada LLP, dated May 1, 2017;

Consolidated Statement of Financial Position as at December 31, 2016 and 2015;

Consolidated Statements of Comprehensive Loss for the years ended December 31, 2016, 2015 and 2014;

Consolidated Statements of Changes in Equity for the years ended December 31, 2016, 2015 and 2014;

Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2015 and 2014; and

Notes to the Consolidated Financial Statements.

The audited consolidated financial statements for the years ended December 31, 2016 and 2015 can be found under “Item 17 Financial Statements”.

Legal Proceedings

There are no legal or arbitration proceedings which may have, or have had in the recent past, a significant effect on our financial position or profitability.

Dividend Distributions

Holders of our common shares are entitled to receive such dividends as may be declared from time to time by our board of directors, in its discretion, out of funds legally available for that purpose. We intend to retain future earnings, if any, for use in the operation and expansion of our business and do not intend to pay any cash dividends in the foreseeable future.

B. Significant Changes

There were no significant changes in our financial affairs since December 31, 2016.

ITEM 9 The Offer and Listing

A. Offer and Listing Details

Price History

Since April 16, 2004, our common shares have been quoted on the OTC Bulletin Board or the OTCQB, as applicable, currently under the symbol "REPCF". On August 10, 2016, we effected a ten (10) for one (1) reverse split.

The following table sets forth the annual high and low market prices for our common shares on the OTC Bulletin Board or the OTCQB, as applicable, for the five most recent full fiscal years:

OTC Bulletin Board / OTCQB		
Annual Highs and Lows	High (U.S.\$)	Low (U.S.\$)
2012	2.60	0.75
2013	0.78	0.35
2014	0.87	0.30
2015	0.454	0.10
2016	\$0.85	\$0.08

From October 1, 2012 to January 10, 2014, our common shares were quoted on the CSE (formerly the CNSX), under the symbol "RP". The following table sets forth the annual high and low market prices for our common shares on the CSE for such period:

CSE		
Annual Highs and Lows	High (CAD\$)	Low (CAD\$)
2012	0.75	0.75
2013	0.55	0.25
2014	0.50	0.50

Since January 13, 2014, our common shares have been quoted on the TSX Venture Exchange, under the symbol “RP”. The following table sets forth the annual high and low market prices for our common shares on the TSX Venture Exchange since the listing date:

TSX Venture Exchange		
Annual Highs and Lows	High (CAD\$)	Low (CAD\$)
2014	9.30	5.80
2015	5.50	1.25
2016	7.20	0.42

The high and low market prices for our common shares for each full fiscal quarter for the two most recent full fiscal years on the OTC Bulletin Board or the OTCQB, as applicable, were as follows:

OTC Bulletin Board / OTCQB		
Quarterly Highs and Lows	High (U.S.\$)	Low (U.S.\$)
2015		
First Quarter	0.547	0.256
Second Quarter	0.454	0.26
Third Quarter	0.371	0.25025
Fourth Quarter	0.2898	0.166
2016		
First Quarter	0.22	0.1339
Second Quarter	0.1469	0.08
Third Quarter	0.66	0.0597
Fourth Quarter	0.85	0.50

The high and low market prices for our common shares for each full fiscal quarter the stock was listed on the CSE were as follows:

CSE		
Quarterly Highs and Lows	High (CAD\$)	Low (CAD\$)
2014		
First Quarter	No trades	

The high and low market prices for our common shares for the two most recent full fiscal years on the TSX Venture Exchange were as follows:

TSX Venture Exchange		
Quarterly Highs and Lows	High (CAD\$)	Low (CAD\$)
2015		
First Quarter	7.20	3.20
Second Quarter	5.80	3.20
Third Quarter	4.65	3.25
Fourth Quarter	3.70	2.40
2016		

TSX Venture Exchange		
Quarterly Highs and Lows	High (CAD\$)	Low (CAD\$)
First Quarter	3.25	1.75
Second Quarter	1.85	0.95
Third Quarter	1.20	0.42
Fourth Quarter	1.10	0.64

The high and low market prices of our common shares for each of the most recent six months on the OTC Bulletin Board or the OTCQB, as applicable, were as follows:

OTC Bulletin Board / OTCQB		
Monthly Highs and Lows	High (U.S.\$)	Low (U.S.\$)
October 2016	0.85	0.50
November 2016	0.77	0.58
December 2016	0.73	0.50
January 2017	1.46	0.70
February 2017	1.31	0.69
March 2017	0.75	0.54

The high and low market prices of our common shares for each of the most recent six months on the TSX Venture Exchange were as follows:

TSX Venture Exchange		
Monthly Highs and Lows	High (CAD\$)	Low (CAD\$)
October 2016	1.10	0.64
November 2016	1.05	0.76
December 2016	0.97	0.66
January 2017	1.90	0.96
February 2017	1.71	0.88
March 2017	1.00	0.71

The trading price and volume of our company's common shares has been and may continue to be subject to wide fluctuations. The stock market has generally experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of companies with little or no current business operations. Because our common shares are only sporadically traded on the OTC Bulletin Board, OTCQB and the TSX Venture Exchange, shareholders may find it difficult to liquidate their common shares, or purchase new common shares, at certain times.

All of our common shares are issued in registered form. The transfer of our common shares is managed by our transfer agent, Computershare Investor Services Inc., 3rd Floor – 510 Burrard Street, Vancouver, British Columbia, V6C 3B9 (Telephone: 604.661.0271; Facsimile: 604.661.9549).

B. Plan of Distribution

Not applicable.

C. Markets

Since April 16, 2004, our common shares have been quoted on the OTC Bulletin Board or the OTCQB, as applicable, under the symbol “REPCF”; since October 1, 2012, on the CSE (formerly the CNSX) under the symbol “RP”; since January 13, 2014 on the TSX Venture Exchange; and, since September 2012, on the Berlin Stock Exchange under the symbol P6P1 and code number AIJHCB. Our common shares are not currently listed for trading on any other market or quotation system. On January 10, 2014, we delisted from the CSE (formerly the CNSX).

D. Selling Shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the Issue

Not applicable.

ITEM 10 Additional Information

A. Share Capital

Not applicable.

B. Memorandum and Articles of Association

We have been continued under the laws of the Province of British Columbia, Canada and have been assigned the number C0913693. Our company is governed by the *Business Corporations Act* (British Columbia).

Our Articles do not contain a description of our objects and purposes.

Our Articles do not restrict a director’s power to vote on a proposal, arrangement or contract in which the director is materially interested, vote compensation to themselves or any other members of their body in the absence of an independent quorum or exercise borrowing powers. There is no mandatory retirement age for our directors and our directors are not required to own securities of our company in order to serve as directors.

Our authorized capital consists of an unlimited number of common shares without par value and an unlimited number of Class A preference shares without par value. Our Class A preference shares may be issued in one or more series and our board of directors may fix the number of shares which is to comprise each series and designate the rights, privileges, restrictions and conditions attaching to each series. There are no Class A preference shares issued and outstanding.

Holders of our common shares are entitled to vote at all meetings of shareholders, except meetings at which only holders of a specified class of shares are entitled to vote, receive any dividend declared by us and, subject to the rights, privileges, restrictions and conditions attaching to any other class of shares, receive the remaining property of our company upon dissolution.

The provisions in our Articles attaching to our common shares and Class A preference shares may be altered, amended, repealed, suspended or changed by the affirmative vote of the holders of not less than two-thirds of the common shares and two-thirds of the Class A preference shares, respectively, present in person or by proxy at any such meeting of holders.

Our Articles provide for our directors to hold office until the expiry of his term (which is stipulated to be immediately before the next election or appointment of directors at an annual general meeting of our shareholders) or until his successor is elected or appointed, unless their respective office is earlier vacated in accordance with our Articles or with the provisions of the *Business Corporations Act* (British Columbia). A director appointed or elected to fill a vacancy on the board of directors holds office for the unexpired term of their predecessor.

An annual meeting of shareholders must be held at such time in each year that is not later than fifteen months after the last preceding annual meeting and at such place as our board of directors may from time to time determine. The holders of not less than five percent of our issued common shares that carry the right to vote at a meeting may requisition our board of directors to call a meeting of shareholders for the purposes stated in the requisition. The quorum for the transaction of business at any meeting of shareholders is two persons who are entitled to vote at the meeting in person or by proxy. Only persons entitled to vote, our directors, president, secretary, lawyers and auditors, and others who, although not entitled to vote, are otherwise entitled or required to be present, are entitled to be present at a meeting of shareholders, provided that only persons entitled to vote may be counted in the quorum.

Except as provided in the *Investment Canada Act*, there are no limitations specific to the rights of non-Canadians to hold or vote our common shares under the laws of Canada or British Columbia, or in our charter documents. See the section entitled “Exchange Controls” below for a discussion of the principal features of the *Investment Canada Act* for non-Canadian residents proposing to acquire our common shares.

Our Articles do not contain provisions that would have an effect of delaying, deferring or preventing a change in control of our company, other than authorizing the issuance by our board of directors of preferred stock in series and limiting the persons who may call special meetings of shareholders. Our Articles do not contain any provisions that would operate only with respect to a merger, acquisition or corporate restructuring of our company.

Our Articles do not contain any provisions governing the ownership threshold above which shareholder ownership must be disclosed.

Our Articles are not significantly different from the requirements of the *Business Corporations Act* (British Columbia), and the conditions imposed by our Articles governing changes in capital are not more stringent than what is required by the *Business Corporations Act* (British Columbia).

C. Material Contracts

Other than as described elsewhere in this annual report on Form 20-F, there are no material contracts which our company and TrichoScience have entered into during the last two years.

D. Exchange Controls

There are presently no governmental laws, decrees or regulations in Canada which restrict the export or import of capital, or which impose foreign exchange controls or affect the remittance of interest, dividends or other payments to non-resident holders of our common shares. However, any remittances of dividends to shareholders not resident in Canada are subject to withholding tax in Canada. See the section entitled “Taxation” below.

Except as provided in the *Investment Canada Act*, there are no limitations specific to the rights of non-Canadians to hold or vote our common shares under the laws of Canada or British Columbia or in our charter documents. The following summarizes the principal features of the *Investment Canada Act* for non-Canadian residents proposing to acquire our common shares.

This summary is of a general nature only and is not intended to be, and should not be construed to be, legal advice to any holder or prospective holder of our common shares, and no opinion or representation to any holder or prospective holder of our common shares is hereby made. Accordingly, holders and prospective holders of our common shares should consult with their own legal advisors with respect to the consequences of purchasing and owning our common shares.

The *Investment Canada Act* governs the direct or indirect acquisition of control of an existing Canadian business by non-Canadians. Under the *Investment Canada Act*, non-Canadian persons or entities acquiring “control” (as defined in the *Investment Canada Act*) of a corporation carrying on business in Canada are required to either notify, or file an application for review with, Industry Canada, unless a specific exemption, as set out in the *Investment Canada Act*, applies. Industry Canada may review any transaction which results in the direct or indirect acquisition of control of a Canadian business, where the gross value of corporate assets exceeds certain threshold levels (which are higher for investors from members of the World Trade Organization, including United States residents, or World Trade Organization member-controlled companies) or where the activity of the business is related to Canada’s cultural heritage or national identity. No change of voting control will be deemed to have occurred, for purposes of the *Investment Canada Act*, if less than one-third of the voting control of a Canadian corporation is acquired by an investor. In addition, the *Investment Canada Act* permits the Canadian government to review any investment where the responsible Minister has reasonable grounds to believe that an investment by a non-Canadian could be injurious to national security. No financial threshold applies to a national security review. The Minister may deny the investment, ask for undertakings, provide terms or conditions for the investment or, where the investment has already been made, require divestment. Review can occur before or after closing and may apply to corporate re-organizations where there is no change in ultimate control.

If an investment is reviewable under the *Investment Canada Act*, an application for review in the form prescribed is normally required to be filed with Industry Canada prior to the investment taking place, and the investment may not be implemented until the review has been completed and the Minister responsible for the *Investment Canada Act* is satisfied that the investment is likely to be of net benefit to Canada. If the Minister is not satisfied that the investment is likely to be of net benefit to Canada, the non-Canadian applicant must not implement the investment, or if the investment has been implemented, may be required to divest itself of control of the Canadian business that is the subject of the investment. The Minister is required to provide reasons for a decision that an investment is not of net benefit to Canada.

Certain transactions relating to our common shares will generally be exempt from the *Investment Canada Act*, subject to the Minister’s prerogative to conduct a national security review, including:

1. the acquisition of our common shares by a person in the ordinary course of that person’s business as a trader or dealer in securities;
2. the acquisition of control of our company in connection with the realization of security granted for a loan or other financial assistance and not for a purpose related to the provisions of the *Investment Canada Act*; and
3. the acquisition of control of our company by reason of an amalgamation, merger, consolidation or corporate reorganization following which the ultimate direct or indirect control in fact of our company, through ownership of our common shares, remains unchanged.

E. Taxation

Material Canadian Federal Income Tax Consequences

We consider that the following general summary fairly describes the principal Canadian federal income tax consequences applicable to a holder of our common shares who is a resident of the United States, who is not, will not be and will not be deemed to be, a resident of Canada for purposes of the *Income Tax Act* (Canada) and any applicable tax treaty and who does not use or hold, and is not deemed to use or hold, his common shares in the capital of our company in connection with carrying on a business in Canada (a “**non-resident holder**”).

This summary is based upon the current provisions of the *Income Tax Act*, the regulations thereunder (the “**Regulations**”), the current publicly announced administrative and assessing policies of the Canada Revenue Agency and the Canada-United States Tax Convention (1980), as amended (the “**Treaty**”). This summary also takes into account the amendments to the *Income Tax Act* and the Regulations publicly announced by the Minister of Finance (Canada) prior to the date hereof (the “**Tax Proposals**”) and assumes that all such Tax Proposals will be enacted in their present form. However, no assurances can be given that the Tax Proposals will be enacted in the form proposed, or at all. This summary is not exhaustive of all possible Canadian federal income tax consequences applicable to a holder of our common shares and, except for the foregoing, this summary does not take into account or anticipate any changes in law, whether by legislative, administrative or judicial decision or action, nor does it take into account provincial, territorial or foreign income tax legislation or considerations, which may differ from the Canadian federal income tax consequences described herein.

This summary is of a general nature only and is not intended to be, and should not be construed to be, legal, business or tax advice to any particular holder or prospective holder of our common shares, and no opinion or representation with respect to the tax consequences to any holder or prospective holder of our common shares is made. Accordingly, holders and prospective holders of our common shares should consult their own tax advisors with respect to the income tax consequences of purchasing, owning and disposing of our common shares in their particular circumstances.

Dividends

Dividends paid on our common shares to a non-resident holder will be subject under the *Income Tax Act* to withholding tax which tax is deducted at source by our company. The withholding tax rate for dividends prescribed by the *Income Tax Act* is 25% but this rate may be reduced under the provisions of an applicable tax treaty. Under the Treaty, the withholding tax rate is reduced to 15% on dividends paid by our company to residents of the United States and is further reduced to 5% where the beneficial owner of the dividends is a corporation resident in the United States that owns at least 10% of the voting common shares of our company.

Capital Gains

A non-resident holder is not subject to tax under the *Income Tax Act* in respect of a capital gain realized upon the disposition of a common share of our company unless such share is “taxable Canadian property” (as defined in the *Income Tax Act*) of the non-resident holder. Our common shares generally will not be taxable Canadian property of a non-resident holder unless the non-resident holder alone or together with non-arm’s length persons owned, or had an interest in an option in respect of, not less than 25% of the issued shares of any class of our capital stock at any time during the 60 month period immediately preceding the disposition of the shares. In the case of a non-resident holder resident in the United States for whom shares of our company are taxable Canadian property, no Canadian taxes will generally be payable on a capital gain realized on such shares by reason of the Treaty unless the value of such shares is derived principally from real property situated in Canada.

The following is a general discussion of certain possible United States Federal foreign income tax matters under current law, generally applicable to a U.S. Holder (as defined below) of our common shares who holds such shares as capital assets. This discussion does not address all aspects of United States Federal income tax matters and does not address consequences peculiar to persons subject to special provisions of Federal income tax law, such as those described below as excluded from the definition of a U.S. Holder. In addition, this discussion does not cover any state, local or foreign tax consequences. See *Taxation Certain Canadian Federal Income Tax Consequences* above.

The following discussion is based upon the Internal Revenue Code of 1986, as amended (the “Code”), Treasury Regulations, published Internal Revenue Service (“IRS”) rulings, published administrative positions of the IRS and court decisions that are currently applicable, any or all of which could be materially and adversely changed, possibly on a retroactive basis, at any time. In addition, this discussion does not consider the potential effects, both adverse and beneficial, of any recently proposed legislation which, if enacted, could be applied, possibly on a retroactive basis, at any time. No assurance can be given that the IRS will agree with such statements and conclusions, or will not take, or a court will not adopt, a position contrary to any position taken herein.

The following discussion is for general information only and is not intended to be, nor should it be construed to be, legal, business or tax advice to any holder or prospective holder of our common shares, and no opinion or representation with respect to the United States Federal income tax consequences to any such holder or prospective holder is made. Accordingly, holders and prospective holders of common shares are urged to consult their own tax advisors with respect to Federal, state, local, and foreign tax consequences of purchasing, owning and disposing of our common shares.

U.S. Holders

As used herein, a “U.S. Holder” includes a holder of less than 10% of our common shares who is a citizen or resident of the United States, a corporation created or organized in or under the laws of the United States or of any political subdivision thereof, any entity which is taxable as a corporation for United States tax purposes and any other person or entity whose ownership of our common shares is effectively connected with the conduct of a trade or business in the United States. A U.S. Holder does not include persons subject to special provisions of Federal income tax law, such as tax-exempt organizations, qualified retirement plans, financial institutions, insurance companies, real estate investment trusts, regulated investment companies, broker-dealers, non-resident alien individuals or foreign corporations whose ownership of our common shares is not effectively connected with the conduct of a trade or business in the United States and shareholders who acquired their shares through the exercise of employee stock options or otherwise as compensation.

Distributions

The gross amount of a distribution paid to a U.S. Holder will generally be taxable as dividend income to the U.S. Holder for United States federal income tax purposes to the extent paid out of our current or accumulated earnings and profits, as determined under United States federal income tax principles. Distributions which are taxable dividends and which meet certain requirements will be “unqualified dividend income” and taxed to U.S. Holders at a maximum United States federal rate of 15%. Distributions in excess of our current and accumulated earnings and profits will be treated first as a tax-free return of capital to the extent the U.S. Holder’s tax basis in the common shares and, to the extent in excess of such tax basis, will be treated as a gain from a sale or exchange of such shares.

Capital Gains

In general, upon a sale, exchange or other disposition of common shares, a U.S. Holder will generally recognize a capital gain or loss for United States federal income tax purposes in an amount equal to the difference between the amount realized on the sale or other distribution and the U.S. Holder's adjusted tax basis in such shares. Such gain or loss will be a United States source gain or loss and will be treated as a long-term capital gain or loss if the U.S. Holder's holding period of the shares exceeds one year. If the U.S. Holder is an individual, any capital gain will generally be subject to United States federal income tax at preferential rates if specified minimum holding periods are met. The deductibility of capital losses is subject to significant limitations.

Foreign Tax Credit

A U.S. Holder who pays (or has had withheld from distributions) Canadian income tax with respect to the ownership of our common shares may be entitled, at the option of the U.S. Holder, to either a deduction or a tax credit for such foreign tax paid or withheld. Generally, it will be more advantageous to claim a credit because a credit reduces United States Federal income taxes on a dollar-for-dollar basis, while a deduction merely reduces the taxpayer's income subject to tax. This election is made on a year-by-year basis and generally applies to all foreign income taxes paid by (or withheld from) the U.S. Holder during that year. There are significant and complex limitations which apply to the tax credit, among which is an ownership period requirement and the general limitation that the credit cannot exceed the proportionate share of the U.S. Holder's United States income tax liability that the U.S. Holder's foreign source income bears to his or its worldwide taxable income. In determining the application of this limitation, the various items of income and deduction must be classified into foreign and domestic sources. Complex rules govern this classification process. The availability of the foreign tax credit and the application of these complex limitations on the tax credit are fact specific and holders and prospective holders of our common shares should consult their own tax advisors regarding their individual circumstances.

Passive Foreign Investment Corporation

We do not believe that we are a passive foreign investment corporation (a "PFIC"). However, since PFIC status depends upon the composition of a company's income and assets and the market value of its assets and shares from time to time, there is no assurance that we will not be considered a PFIC for any taxable year. If we were treated as a PFIC for any taxable year during which a U.S. Holder held shares, certain adverse tax consequences could apply to the U.S. Holder.

If we are treated as a PFIC for any taxable year, gains recognized by such U.S. Holder on a sale or other disposition of shares would be allocated ratably over the U.S. Holder's holding period for the shares. The amount allocated to the taxable year of the sale or other exchange and to any year before we became a PFIC would be taxed as ordinary income. The amount allocated to each other taxable year would be subject to tax at the highest rate in effect for individuals or corporations, as applicable, and an interest charge would be imposed on the amount allocated to such taxable year. Further, any distribution in respect of shares in excess of 125% of the average of the annual distributions on shares received by the U.S. Holder during the preceding three years or the U.S. Holder's holding period, whichever is shorter, would be subject to taxation as described above. Certain elections may be available to U.S. Holders that may mitigate some of the adverse consequences resulting from PFIC status. However, regardless of whether such elections are made, dividends paid by a PFIC will not be "qualified dividend income" and will generally be taxed at the higher rates applicable to other items of ordinary income.

U.S. Holders and prospective holders should consult their own tax advisors regarding the potential application of the PFIC rules to their ownership of our common shares.

F. Dividends and Paying Agents

Not applicable.

G. Statements by Experts

Not applicable.

H. Documents on Display

Documents concerning our company referred to in this annual report may be viewed by appointment during normal business hours at our registered and records office at Suite 900 - 885 West Georgia Street, Vancouver, British Columbia, Canada V6C 3H1.

I. Subsidiary Information

We have one subsidiary: TrichoScience Innovations Inc., a company incorporated on September 7, 2006 under the *Business Corporations Act* (Canada).

ITEM 11 Quantitative and Qualitative Disclosures About Market Risk

Not applicable.

ITEM 12 Description of Securities Other Than Equity Securities

Not applicable.

PART II

ITEM 13 Defaults, Dividend Arrearages and Delinquencies

Not applicable.

ITEM 14 Material Modifications to the Rights of Security Holders and Use of Proceeds

Not applicable.

ITEM 15 Controls and Procedures

A. Disclosure Controls and Procedures

As required by paragraph (b) of Rules 13a-15 or 15d-15 under the Exchange Act, our principal executive officer and principal financial officer evaluated our company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) as of the end of the period covered by this annual report on Form 20-F. Based on this evaluation, these officers concluded that as of the end of the period covered by this annual report on Form 20-F, our disclosure controls and procedures were not effective to ensure that the information required to be disclosed by our company in reports it files or submits under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission. These disclosure controls and procedures include controls and procedures designed to ensure that such information is accumulated and communicated to our company's management, including our company's principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure. The conclusion that our disclosure controls and procedures were not effective was due to the presence of material weaknesses in internal control over financial reporting as identified below under the heading "Management's Report on Internal Control Over Financial Reporting." Management anticipates that such disclosure controls and procedures will not be effective until the material weaknesses are remediated. Our company intends to remediate the material weaknesses as set out below.

Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues, if any, within our company have been detected.

B. Management's Report on Internal Control Over Financial Reporting

Our company's management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) for our company. Our company's internal control over financial reporting is designed to provide reasonable assurance, not absolute assurance, regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America. Internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our company's assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles in the United States of America, and that our company's receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of assets that could have a material effect on our financial statements.

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

Our management, including our principal executive officer and principal financial officer, conducted an evaluation of the design and operation of our internal control over financial reporting as of December 31, 2016 based on the criteria set forth in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. This evaluation included review of the documentation of controls, evaluation of the design effectiveness of controls, testing of the operating effectiveness of controls and a conclusion on this evaluation. A material weakness is a control deficiency, or combination of control deficiencies, such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis.

Based on this evaluation, our management concluded our internal control over financial reporting was not effective as at December 31, 2016 due to the following material weaknesses: (i) inadequate segregation of duties and effective risk assessment; and (ii) insufficient written policies and procedures for accounting, financial reporting and corporate governance.

Our company has taken steps to enhance and improve the design of our internal controls over financial reporting, however these steps were not complete as of December 31, 2016. During the period covered by this annual report on Form 20-F, we have not been able to remediate the material weaknesses identified above.

Plan for Remediation of Material Weaknesses

We intend to take appropriate and reasonable steps to make the necessary improvements to remediate these deficiencies. We intend to consider the results of our remediation efforts and related testing as part of our year-end 2016 assessment of the effectiveness of our internal control over financial reporting.

Subject to receipt of additional financing, we have undertaken, or intend to undertake, the below remediation measures to address the material weaknesses described in this annual report. Such remediation activities include that we intend to continue to update the documentation of our internal control processes, including formal risk assessment of our financial reporting processes.

The remediation efforts set out above are largely dependent upon our company securing additional financing to cover the costs of implementing the changes required. If we are unsuccessful in securing such funds, remediation efforts may be adversely affected in a material manner.

Our internal control over financial reporting was not subject to attestation by our independent registered public accounting firm pursuant to the rules of the Securities and Exchange Commission that permit us to provide only management's report in this annual report.

Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues, if any, within our company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake.

C. Changes in Internal Controls Over Financial Reporting

There were no changes in internal controls over financial reporting during the year ended December 31, 2016 that have materially affected or are reasonably likely to materially affect, our internal control over financial reporting. However, as a result of the evaluation of our internal control over financial reporting as of December 31, 2016, conducted by our principal executive officer and principal financial officer, we expect to make such changes in the year ended December 31, 2017.

ITEM 16A Audit Committee Financial Expert

Our board of directors has determined that at least one member of its audit committee, being Mr. Peter Lewis, qualifies as an "audit committee financial expert" as defined in Item 16A(b) of Form 20-F. Mr. Lewis is also "independent" as that term is defined in Nasdaq Marketplace Rule 5605(a)(2).

ITEM 16B Code of Ethics

Code of Ethics

Effective July 15, 2004, our board of directors adopted a Code of Business Conduct and Ethics that applies to, among other persons, our president (being our principal executive officer) and our chief financial officer (being our principal financial and accounting officer), as well as persons performing similar functions. As adopted, our Code of Business Conduct and Ethics sets forth written standards that are designed to deter wrongdoing and to promote:

1. honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
2. full, fair, accurate, timely, and understandable disclosure in reports and documents that we file with, or submit to, the Securities and Exchange Commission and in other public communications made by us;

3. compliance with applicable governmental laws, rules and regulations;
4. the prompt internal reporting of violations of the Code of Business Conduct and Ethics to an appropriate person or persons identified in the Code of Business Conduct and Ethics; and
5. accountability for adherence to the Code of Business Conduct and Ethics.

Our Code of Business Conduct and Ethics requires, among other things, that all of our company's personnel shall be accorded full access to our president and secretary with respect to any matter which may arise relating to the Code of Business Conduct and Ethics. Further, all of our company's personnel are to be accorded full access to our company's board of directors if any such matter involves an alleged breach of the Code of Business Conduct and Ethics by our President or Secretary.

In addition, our Code of Business Conduct and Ethics emphasizes that all employees, and particularly managers and/or supervisors, have a responsibility for maintaining financial integrity within our company, consistent with generally accepted accounting principles, and federal, provincial and state securities laws. Any employee who becomes aware of any incidents involving financial or accounting manipulation or other irregularities, whether by witnessing the incident or being told of it, must report it to his or her immediate supervisor or to our company's president. If the incident involves an alleged breach of the Code of Business Conduct and Ethics by the president, the incident must be reported to any member of our board of directors. Any failure to report such inappropriate or irregular conduct of others is to be treated as a severe disciplinary matter. It is against our company policy to retaliate against any individual who reports in good faith the violation or potential violation of our company's Code of Business Conduct and Ethics by another.

Our Code of Business Conduct and Ethics was filed with the Securities and Exchange Commission as Exhibit 14.1 to our annual report filed on July 15, 2004. We will provide a copy of the Code of Business Conduct and Ethics to any person without charge, upon request. Requests can be sent to: RepliCel Life Sciences Inc., Suite 900 – 570 Granville Street, Vancouver, British Columbia, Canada V6C 3P1.

ITEM 16C Principal Accountant Fees and Services

Audit Fees

Our board of directors appointed BDO Canada LLP, Chartered Professional Accountants, as independent auditors to audit our consolidated financial statements for the fiscal year ended December 31, 2016. The aggregate fees billed by BDO Canada LLP for audit services rendered for the audit of our annual financial statements and interim reviews of our quarterly financial statements for the fiscal years ended December 31, 2016 and December 31, 2015 were \$81,203 and \$86,449, respectively.

Audit Related Fees

For the fiscal year ended December 31, 2016, and 2015, the aggregate fees billed for audit related services by BDO Canada LLP were \$nil and \$nil, respectively.

Tax Fees

For the fiscal years ended December 31, 2016 and 2015, the aggregate fees billed for tax compliance and tax planning by BDO Canada LLP were \$3,675 and \$6,562, respectively.

All Other Fees

For the fiscal years ended December 31, 2016 and 2015, the aggregate fees billed by BDO Canada LLP for other non-audit professional services, other than those services listed above, were \$nil and \$nil, respectively.

Pre-Approval Policies and Procedures

Our audit committee pre-approves all services provided by our independent auditors. All of the services and fees described under the categories of “Audit Fees”, “Audit Related Fees”, “Tax Fees” and “All Other Fees” were reviewed and approved by the audit committee before the respective services were rendered, and none of such services were approved by the audit committee pursuant to paragraph (c)(7)(i)(C) of Rule 2-01 of Regulation S-X.

The audit committee has considered the nature and amount of the fees billed by BDO Canada LLP, Chartered Accountants, and believes that the provision of the services for activities unrelated to the audit is compatible with maintaining the independence of BDO Canada LLP, Chartered Accountants.

ITEM 16D Exemption from the Listing Standards for Audit Committees

Not applicable.

ITEM 16E Purchases of Equity Securities by the Issuer and Affiliated Purchasers

In 2016, neither we nor any affiliated purchaser (as defined in the *Securities Exchange Act of 1934*) purchased any of our common shares.

ITEM 16F Change in Registrant’s Certifying Accountant

None.

ITEM 16G. Corporate Governance

Not applicable.

ITEM 16H. Mine Safety Disclosure

Not applicable.

ITEM 17 Financial Statements

Financial Statements Filed as Part of this Report:

Audited Annual Financial Statements as at December 31, 2016 and 2015:

[Independent Auditor’s Report of BDO Canada LLP, dated May 1, 2017;](#)

[Consolidated Statement of Financial Position as at December 31, 2016 and 2015;](#)

[Consolidated Statements of Comprehensive Loss for the years ended December 31, 2016, 2015 and 2014;](#)

[Consolidated Statements of Changes in Equity for the years ended December 31, 2016, 2015 and 2014;](#)

[Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2015 and 2014; and](#)

[Notes to the Consolidated Financial Statements.](#)

REPLICEL LIFE SCIENCES INC.
INDEPENDENT AUDITOR'S REPORT AND CONSOLIDATED FINANCIAL STATEMENTS

For the year-ended December 31, 2016

(Stated in Canadian Dollars)



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BDO Canada LLP
600 Cathedral Place
925 West Georgia Street
Vancouver BC V6C 3L2 Canada

Independent Auditor's Report

To the Shareholders of RepliCel Life Sciences Inc.

We have audited the accompanying consolidated financial statements of RepliCel Life Sciences Inc., which comprise the consolidated statements of financial position as at December 31, 2016 and 2015 and the consolidated statements of comprehensive loss, cash flows, and changes in equity for the years ended December 31, 2016, 2015 and 2014, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with International Financial Reporting Standards, as issued by the International Accounting Standards Board, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained in our audits is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of RepliCel Life Sciences Inc. as at December 31, 2016 and 2015 and its financial performance and its cash flows for the years ended December 31, 2016, 2015, and 2014 in accordance with International Financial Reporting Standards.

Emphasis of Matter

Without qualifying our opinion, we draw attention to Note 2(a) in the accompanying financial statements which indicates the Company has incurred operating losses since inception, has a working capital deficiency, and a deficiency in shareholder's equity, which raises substantial doubt about the Company's ability to continue as a going concern. The accompanying financial statements do not include any adjustments that might result from the outcome of these uncertainties.

(signed) "BDO Canada LLP"

Chartered Professional Accountants

Vancouver, British Columbia
May 1, 2017

BDO Canada LLP, a Canadian limited liability partnership, is a member of BDO International Limited, a UK company limited by guarantee, and forms part of the international BDO network of independent member firms.

REPLICEL LIFE SCIENCES INC.
Consolidated Statements of Comprehensive Loss
For the year-ended December 31, 2016
(Stated in Canadian Dollars)

	Notes	December 31, 2016	December 31, 2015
Assets			
Current assets			
Cash and cash equivalents		\$ 60,752	\$ 175,791
Guaranteed investment certificate		1,450,000	-
Sales taxes recoverable		66,060	25,816
Prepaid expenses and deposits		236,055	193,213
		1,812,867	394,820
Non-current assets			
Equipment	7	15,320	21,100
Total assets		\$ 1,828,187	\$ 415,920
Liabilities			
Current liabilities			
Accounts payable and accrued liabilities	9	\$ 621,737	\$ 1,017,701
Shareholders' equity (capital deficit)			
Common shares	8	21,910,238	16,498,743
Contributed surplus	8	4,071,899	3,403,869
Accumulated deficit		(24,775,687)	(20,504,393)
Total shareholders' equity (capital deficit)		1,206,450	(601,781)
Total liabilities and shareholders' equity (capital deficit)		\$ 1,828,187	\$ 415,920
Events after the reporting date	16		

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

Approved on behalf of the Board:

/s/ "David Hall"

Director

/s/ "Lee Buckler"

Director

REPLICEL LIFE SCIENCES INC.
Consolidated Statements of Comprehensive Loss
For the year-ended December 31, 2016
(Stated in Canadian Dollars)

	December 31, 2016	December 31, 2015	December 31, 2014
	\$	\$	\$
Expenses			
Research and development (Note 9)	1,115,063	2,319,830	1,942,877
General and administrative (Note 6, 7 and 9)	3,172,565	2,727,098	3,267,739
Loss before other items	(4,287,628)	(5,046,928)	(5,210,616)
Other items:			
Change in fair value of warrants denominated in a foreign currency (Note 8g)	-	3,633	(7,695)
Foreign exchange gain (loss)	16,334	(15,452)	3,502
Interest income	-	14,733	16,398
Net and comprehensive loss	\$ (4,271,294)	\$ (5,044,014)	\$ (5,198,411)
Basic and diluted loss per share	\$ (0.54)	\$ (0.92)	\$ (1.02)
Weighted average shares outstanding	7,952,312	5,687,544	5,090,485

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

REPLICEL LIFE SCIENCES INC.
Consolidated Statements of Cash Flows
For the year-ended December 31, 2016
(Stated in Canadian Dollars)

	December 31, 2016	December 31, 2015	December 31, 2014
Operating activities			
Net loss	\$ (4,271,294)	\$ (5,044,014)	\$ (5,198,411)
Add items not involving cash:			
Depreciation	5,780	6,975	7,606
Stock-based compensation	826,307	131,714	784,394
Change in fair value of warrants (Note 8g)	-	(3,633)	7,694
Changes in non-cash working capital balances:			
Sales taxes recoverable	(40,244)	3,293	(4,065)
Prepaid expenses and deposits	(42,842)	(142,031)	(4,614)
Accounts payable and accrued liabilities	(21,893)	686,266	(37,920)
Net cash used in operating activities	(3,544,186)	(4,361,430)	(4,445,854)
Investing activities			
Guaranteed Investment Certificate	(1,450,000)	1,500,000	(1,500,000)
Purchase of equipment	-	(2,192)	(10,165)
Net cash provided by (used for) investing activities	(1,450,000)	1,497,808	(1,510,165)
Financing activities			
Gross proceeds on issuance of common shares	4,848,524	2,645,259	3,990,125
Proceeds on issuance of shares on exercise of warrants	244,997	-	834,218
Finder's fee	(214,374)	(140,960)	(291,215)
Net cash provided by financing activities	4,879,147	2,504,299	4,533,128
Decrease in cash and cash equivalents during the year	(115,039)	(359,323)	(1,422,891)
Cash and cash equivalents, beginning of the year	175,791	535,114	1,958,005
Cash and cash equivalents, end of the year	\$ 60,752	\$ 175,791	\$ 535,114

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

REPLICEL LIFE SCIENCES INC.
Consolidated Statements of Changes in Equity
For the year-ended December 31, 2016
(Stated in Canadian Dollars)

	Common Stock		Contributed Surplus	Accumulated Deficit	Total
	Shares	Amount			
Balance, January 1, 2016	6,348,038	\$ 16,498,743	\$ 3,403,869	\$ (20,504,393)	\$ (601,781)
Shares released from escrow– Note 6	(60,000)	341,000	(341,000)	-	-
Shares issued upon exercise of warrants for cash at \$2.20 – Note 8(b)(vi)	111,362	244,997	-	-	244,997
Shares issued – Note 8 (b) iv, v	326,763	584,525	-	-	584,525
Stock-based compensation – Note 8 (e)	-	-	826,307	-	826,307
Shares issued – Note 8 (b) ii	8,199,999	4,263,999	-	-	4,263,999
Finders fees – Note 8 (b) ii	-	(390,857)	176,483	-	(214,374)
Shares issued as finder fees – Note 8 (b) ii	12,000	(6,240)	6,240	-	-
Shares issued for debt settlement – Note 8 (b) i	719,368	374,071	-	-	374,071
Net loss for the year	-	-	-	(4,271,294)	(4,271,294)
Balance, December 31, 2016	15,657,530	\$ 21,910,238	\$ 4,071,899	\$ (24,775,687)	\$ 1,206,450

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

REPLICEL LIFE SCIENCES INC.
Consolidated Statements of Changes in Equity
For the year-ended December 31, 2016
(Stated in Canadian Dollars)

	Common Stock			Contributed Surplus	Accumulated Deficit	Total
	Shares	Amount	Share Subscriptions			
Balance, January 1, 2015	5,494,728	\$ 14,047,244	\$ -	\$ 3,219,355	\$ (15,460,379)	\$ 1,806,220
Shares issued for cash at CAD \$3.10 – Note 8(b)	853,310	2,645,259	-	-	-	2,645,259
Finders fees – Note 8(b)	-	(193,760)	-	52,800	-	(140,960)
Stock based compensation – Note 8	-	-	-	131,714	-	131,714
Net loss for the year	-	-	-	-	(5,044,014)	(5,044,014)
Balance, December 31, 2015	6,348,038	\$ 16,498,743	\$ -	\$ 3,403,869	\$ (20,504,393)	\$ (601,781)

	Common Stock			Contributed Surplus	Accumulated Deficit	Total
	Shares	Amount	Share Subscriptions			
Balance, January 1, 2014	4,811,861	\$ 9,430,914	\$ -	\$ 2,305,713	\$ (10,261,968)	\$ 1,474,659
Shares issued upon exercise of warrants for cash at US \$5.00 – Note 8(b)	150,851	1,046,667	-	-	-	1,046,667
Shares issued for cash at CAD \$7.50 – Note 8(b)	532,016	3,990,125	-	-	-	3,990,125
Finders fees – Note 8(b)	-	(420,462)	-	129,247	-	(291,215)
Stock based compensation – Note 8	-	-	-	784,395	-	784,395
Net loss for the year	-	-	-	-	(5,198,411)	(5,198,411)
Balance, December 31, 2014	5,494,728	\$ 14,047,244	\$ -	\$ 3,219,355	\$ (15,460,379)	\$ 1,806,220

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

REPLICEL LIFE SCIENCES INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
For the year-ended December 31, 2016
(Stated in Canadian Dollars)

1. Corporate Information

RepliCel Life Sciences Inc. (the “Company” or “RepliCel”) was incorporated under the Ontario *Business Corporations Act* on April 24, 1967 but was continued from Ontario to British Columbia on June 22, 2011. The Company’s reporting jurisdiction is British Columbia. Its common shares are listed for trading in Canada on the TSX Venture Exchange, trading under the symbol RP, and in the United States on the OTCQB, trading under the symbol REPCF.

RepliCel is a regenerative medicine company focused on developing autologous cell therapies that treat functional cellular deficits including chronic tendon injuries, androgenetic alopecia and skin aging.

The address of the Company’s corporate office and principal place of business is Suite 2020 – 401 West Georgia Street, Vancouver, BC, V6B 5A1.

2. Basis of Presentation

These consolidated financial statements for the year-ended December 31, 2016 have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”).

The financial statements are presented in Canadian dollars, which is also the Company’s functional currency, unless otherwise indicated.

The financial statements were authorized for issue by the Board of Directors on May 1, 2017.

The preparation of financial statements in compliance with IFRS requires management to make certain critical accounting estimates. It also requires management to exercise judgment in applying the Company’s accounting policies. The areas involving a higher degree of judgment of complexity, or areas where assumptions and estimates are significant to the financial statements are disclosed in Note 3.

a) Going Concern of Operations

These consolidated financial statements have been prepared on a going concern basis, which assumes that the Company will continue to realize its assets and discharge its obligations and commitments in the normal course of operations. At December 31, 2016, the Company is in the research stage, has accumulated losses of \$24,775,687 since its inception and expects to incur further losses in the development of its business. The Company will require additional funding to continue its research and development activities, which casts substantial doubt about the Company’s ability to continue as a going concern.

The Company’s ability to continue as a going concern is dependent upon its ability to generate future profitable operations and/or to obtain the necessary financing to meet its obligations and repay its liabilities arising from normal business operations when they come due. Management has a plan in place to address this concern and intends to obtain additional funds by equity financing to the extent there is a shortfall from operations. While the Company is continuing its best efforts to achieve the above plans, there is no assurance that any such activity will generate funds for operations.

REPLICEL LIFE SCIENCES INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
For the year-ended December 31, 2016
(Stated in Canadian Dollars)

2. Basis of Presentation - continued

a) Going Concern of Operations - continued

If the going concern assumptions were not appropriate for these consolidated financial statements, then adjustments would be necessary to the carrying value of assets and liabilities, the reported net loss and the financial position classifications used.

3. Critical Accounting Estimates and Judgements

RepliCel Life Sciences Inc. makes estimates and assumptions about the future that affect the reported amounts of assets and liabilities. Estimates and judgments are continually evaluated based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. In the future, actual experience may differ from these estimates and assumptions.

The effect of a change in an accounting estimate is recognized prospectively by including it in comprehensive income in the period of the change, if the change affects that period only, or in the period of the change and future periods, if the change affects both.

Information about critical judgments in applying accounting policies that have the most significant risk of causing material adjustment to the amounts reported in these financial statements are discussed below:

Share Based Payments and Derivatives Liabilities related to Equities

The Company measures the cost of equity-settled transactions with employees by reference to the fair value of the equity instruments at the date at which they are granted. Estimating fair value for share-based payment transactions requires determining the most appropriate valuation model, which is dependent on the terms and conditions of the grant. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life of the share option, volatility and dividend yield and making assumptions about them. The assumptions and models used for estimating the fair value for share-based payment transactions are disclosed in Note 8(d).

Similar judgement and estimates to the share-based payments are used to determine the fair value of derivative liabilities related to warrants denominated in U.S. dollars. The assumptions and models used for estimating the fair value for derivative liabilities are disclosed in Note 8(g).

Income Taxes

Significant judgment is required in determining the provision for income taxes. There are many transactions and calculations undertaken during the ordinary course of business for which the ultimate tax determination is uncertain. The Company recognizes liabilities and contingencies for anticipated tax audit issues based on the Company's current understanding of the tax law. For matters where it is probable that an adjustment will be made, the Company records its best estimate of the tax liability including the related interest and penalties in the current tax provision. Management believes they have adequately provided for the probable outcome of these matters; however, the final outcome may result in a materially different outcome than the amount included in the tax liabilities.

In addition, the Company will recognize deferred tax assets relating to tax losses carried forward to the extent there are sufficient taxable temporary differences relating to the same taxation authority and the same taxable entity against which the unused tax losses can be utilized. However, utilization of the tax losses also depends on the ability of the taxable entity to satisfy certain tests at the time the losses are recouped.

4. **Summary of Significant Accounting Policies**

The accounting policies set out below have been applied consistently to all years presented in these consolidated financial statements.

a) **Cash and cash equivalents**

Cash and cash equivalents include cash on hand with financial institutions and other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and subject to an insignificant risk of change in value.

b) **Guaranteed Investment Certificate**

Cash deposits with original maturities greater than three months, and are not redeemable before maturity, are recorded in guaranteed investment certificates.

c) **Equipment**

Recognition and Measurement

On initial recognition, equipment is valued at cost, being the purchase price and directly attributable cost of acquisition or construction required to bring the asset to the location and condition necessary to be capable of operating in the manner intended by the Company, including appropriate borrowing costs and the estimated present value of any future unavoidable costs of dismantling and removing items. The corresponding liability is recognized within provisions.

Equipment is subsequently measured at cost less accumulated depreciation, less any accumulated impairment losses.

When parts of an item of equipment have different useful lives, they are accounted for as separate items (major components) of equipment.

Gains and Losses

Gains and losses on disposal of an item of equipment are determined by comparing the proceeds from disposal with the carrying amount, and are recognized net within other income in profit or loss.

Depreciation

Depreciation and amortization rates applicable to each category of equipment are as follows:

Furniture and equipment	20%
Computer equipment	30%

Depreciation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

4. **Summary of Significant Accounting Policies - *continued***

d) Impairment of Non-Financial Assets

Other non-financial assets are subject to impairment tests whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. Where the carrying value of an asset exceeds its recoverable amounts, which is the higher of value in use and fair value less costs to sell, the asset is written down accordingly.

Where it is not possible to estimate the recoverable amount of an individual asset, the impairment test is carried out on the asset's cash-generating unit, which is the lowest group of assets in which the asset belongs for which there are separately identifiable cash inflows that are largely independent of the cash inflows from other assets. The Company has one cash-generating unit for which impairment testing is assessed.

An impairment loss is charged to the profit or loss, except to the extent it reverses gains previously recognized in other comprehensive loss/income.

e) Revenue

Revenue consists of an upfront fee received under a Collaboration and Technology Transfer Agreement. The Company recognizes revenue when (i) the entity has transferred to the buyer the significant risks and rewards of ownership of the intellectual property, (ii) the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the intellectual property, (iii) the amount of revenue can be measured reliably, (iv) it is probable that the economic benefits associated with the transaction will flow to the entity, and (v) the costs incurred or to be incurred in respect of the transaction can be measured reliably. Licensing revenue, in the form of non-refundable upfront payments, is recognized at the date the Company no longer maintains substantive contractual obligations.

f) Basic and Diluted Loss per Share

Basic loss per share is calculated by dividing the net loss by the weighted average number of common shares outstanding for the relevant period.

Diluted earnings/loss per common share is computed by dividing the net income or loss applicable to common shares by the sum of the weighted average number of common shares issued and outstanding and all additional common shares that would have been outstanding, if potentially dilutive instruments were converted.

The number of shares potentially issuable at December 31, 2016 that were not included in the computation of loss per share totaled 12,310,910 (2015: 2,349,785; 2014: 1,456,006) consisting of 1,417,000 (2015: 484,000; 2014: 489,000) outstanding stock options; nil (2015: 170,000; 2014: 170,000) contingently issuable common shares held in escrow to be released upon the occurrence of certain milestones (Note 8(f)); 10,848,439 warrants (2015: 1,650,314; 2014: 797,005); and 45,471 agents' options (2015: 45,471; 2014: Nil) (Note 8(i)).

4. Summary of Significant Accounting Policies – *continued*

g) **Income Taxes**

Income tax expense is comprised of current and deferred tax. Current and deferred tax are recognized in net income except to the extent that it relates to a business combination or items recognized directly in equity or in other comprehensive loss/income.

Current income taxes are recognized for the estimated income taxes payable or receivable on taxable income or loss for the current year and any adjustment to income taxes payable in respect of previous years. Current income taxes are determined using tax rates and tax laws that have been enacted or substantively enacted by the year-end date.

Deferred tax assets and liabilities are recognised where the carrying amount of an asset or liability in the consolidated statement of financial position differs from its tax base, except for differences arising on:

- the initial recognition of goodwill;
- the initial recognition of an asset or liability in a transaction which is not a business combination and at the time of the transaction affects neither accounting or taxable profit; and
- investments in subsidiaries and jointly controlled entities where the Company is able to control the timing of the reversal of the difference and it is probable that the difference will not reverse in the foreseeable future.

Recognition of deferred tax assets is restricted to those instances where it is probable that taxable profit will be available against which the difference can be utilised.

The amount of the asset or liability is determined using tax rates that have been enacted or substantively enacted by the reporting date and are expected to apply when the deferred tax liabilities/(assets) are settled/(recovered).

Deferred tax assets and liabilities are offset when the Company has a legally enforceable right to offset current tax assets and liabilities and the deferred tax assets and liabilities relate to taxes levied by the same tax authority on either:

- the same taxable group company; or
- different group entities which intend either to settle current tax assets and liabilities on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax assets or liabilities are expected to be settled or recovered.

h) **Scientific research and development credit**

Scientific research and development credits are received on capital expenditure and are generally deducted in arriving at the carrying amount of the asset purchased. Grants relating to expenditure are recorded in other income when received.

i) **Intangible Assets**

Externally acquired intangible assets

Externally acquired intangible assets are initially recognised at cost and subsequently amortised on a straight-line basis over their useful economic lives.

In-process research and development programmes acquired in business combinations are recognised as an asset even if subsequent expenditure is written off because the criteria specified in the policy for development costs below are not met.

4. Summary of Significant Accounting Policies – *continued*

i) Intangible Assets – *continued*

Internally generated intangible assets (development costs)

Expenditure on internally developed products is capitalised if it can be demonstrated that:

- it is technically feasible to develop the product for it to be sold;
- adequate resources are available to complete the development;
- there is an intention to complete and sell the product;
- the Company is able to sell the product;
- sale of the product will generate future economic benefits; and
- expenditure on the project can be measured reliably.

Capitalized development costs are amortised over the periods the Company expects to benefit from selling the products developed. Development expenditure not satisfying the above criteria and expenditure on the research phase of internal projects are recognised in the consolidated statement of comprehensive income as incurred.

The Company expenses research costs until such time U.S. approval from the Federal Drug Administration is obtained.

j) Foreign Currency Translation

The financial statements are presented in Canadian dollars, which is also the functional currency.

At the transaction date, each asset, liability, revenue and expense denominated in a foreign currency is translated into Canadian dollars by the use of the exchange rate in effect at that date. At the year-end date, unsettled monetary assets and liabilities are translated into Canadian dollars by using the exchange rate in effect at the year-end date and the related translation differences are recognized in net income.

Non-monetary assets and liabilities that are measured at historical cost are translated into Canadian dollars by using the exchange rate in effect at the date of the initial transaction and are not subsequently restated. Non-monetary assets and liabilities that are measured at fair value or a re-valued amount are translated into Canadian dollars by using the exchange rate in effect at the date the value is determined and the related translation differences are recognized in net income or other comprehensive loss consistent with where the gain or loss on the underlying non-monetary asset or liability has been recognized.

k) Share-based Payments

The Company adopted a stock option plan during the year ended December 31, 2010 (Note 8(c)). In addition, certain of the Company's founders have entered into option agreements with consultants and employees of the Company.

Employees (including senior executives) of the Company receive remuneration in the form of share-based payment transactions, whereby employees render services as consideration for equity instruments (equity-settled transactions).

4. Summary of Significant Accounting Policies - *continued*

Equity-settled transactions

The cost of equity-settled transactions is recognized, together with a corresponding increase in contributed surplus in equity, over the period in which the performance and/or service conditions are fulfilled. The cumulative expense recognized for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Company's best estimate of the number of equity instruments that will ultimately vest. The income statement expense or credit for a period represents the movement in cumulative expense recognized as at the beginning and end of that period and is recognized as stock based compensation expense (Note 8(e)).

No expense is recognized for awards that do not ultimately vest, except for equity-settled transactions where vesting is conditional upon a market or non-vesting condition, which are treated as vesting irrespective of whether or not the market or non-vesting condition is satisfied, provided that all other performance and/or service conditions are satisfied.

Where the terms of an equity-settled transaction award are modified, the minimum expense recognized is the expense as if the terms had not been modified, if the original terms of the award are met. An additional expense is recognized for any modification that increases the total fair value of the share-based payment transaction, or is otherwise beneficial to the employee as measured at the date of modification.

Where an equity-settled award is cancelled, it is treated as if it vested on the date of cancellation, and any expense not yet recognized for the award is recognized immediately. This includes any award where non-vesting conditions within the control of either the entity or the employee are not met. However, if a new award is substituted for the cancelled award, and designated as a replacement award on the date that it is granted, the cancelled and new awards are treated as if they were a modification of the original award, as described in the previous paragraph. All cancellations of equity-settled transaction awards are treated equally. No expense is recognized for awards that do not ultimately vest.

The dilutive effect of outstanding options is reflected as additional share dilution in the computation of diluted earnings per share.

Cash-settled transactions

The cost of cash-settled transactions is measured initially at fair value at the grant date using a binomial model. This fair value is expensed over the period until the vesting date with recognition of a corresponding liability. The liability is remeasured to fair value at each reporting date up to and including the settlement date, with changes in fair value recognized as employee benefits expense.

l) Leased assets

Where substantially all of the risks and rewards incidental to ownership of a leased asset have been transferred to the Company (a "finance lease"), the asset is treated as if it had been purchased outright. The amount initially recognised as an asset is the lower of the fair value of the leased property and the present value of the minimum lease payments payable over the term of the lease. The corresponding lease commitment is shown as a liability. Lease payments are analyzed between capital and interest. The interest element is charged to the consolidated statement of comprehensive income over the period of the lease and is calculated so that it represents a constant proportion of the lease liability. The capital element reduces the balance owed to the lessor.

4. **Summary of Significant Accounting Policies** – *continued*

l) **Leased assets**

Where substantially all of the risks and rewards incidental to ownership are not transferred to the Company (an "operating lease"), the total rentals payable under the lease are charged to the consolidated statement of comprehensive income on a straight-line basis over the lease term. The aggregate benefit of lease incentives is recognized as a reduction of the rental expense over the lease term on a straight-line basis.

m) **Events After the Financial Position Date**

Events after the financial position date that provide additional information about the Company's position at the financial position date (adjusting event) are reflected in the consolidated financial statements. Events after the financial position date that are not adjusting events, if any, are disclosed when material to the consolidated financial statements.

n) **Financial Instruments**

The Company classifies its financial instruments in the following categories: at fair value through profit or loss, loans and receivables, held-to-maturity investments, available-for-sale and financial liabilities. The classification depends on the purpose for which the financial instruments were acquired. Management determines the classification of its financial instruments at initial recognition.

Financial assets are classified at fair value through profit or loss when they are either held for trading for the purpose of short-term profit taking, derivatives not held for hedging purposes, or when they are designated as such to avoid an accounting mismatch or to enable performance evaluation where a group of financial assets is managed by key management personnel on a fair value basis in accordance with a documented risk management or investment strategy. Such assets are subsequently measured at fair value with changes in carrying value being included in profit or loss.

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market and are subsequently measured at amortized cost. They are included in current assets, except for maturities greater than 12 months after the end of the reporting period. These are classified as non-current assets.

Held-to-maturity investments are non-derivative financial assets that have fixed maturities and fixed or determinable payments, and it is the Company's intention to hold these investments to maturity. They are subsequently measured at amortized cost. Held-to-maturity investments are included in non-current assets, except for those which are expected to mature within 12 months after the end of the reporting period.

Available-for-sale financial assets are non-derivative financial assets that are designated as available-for-sale or are not suitable to be classified as financial assets at fair value through profit or loss, loans and receivables or held-to-maturity investments and are subsequently measured at fair value. These are included in current assets. Unrealized gains and losses are recognized in other comprehensive income, except for impairment losses and foreign exchange gains and losses.

Non-derivative financial liabilities (excluding financial guarantees) are subsequently measured at amortized cost. Regular purchases and sales of financial assets are recognized on the trade-date – the date on which the Company commits to purchase the asset.

4. Summary of Significant Accounting Policies – *continued*

Financial assets are derecognized when the rights to receive cash flows from the underlying instruments have expired or have been transferred and the Company has transferred substantially all risks and rewards of ownership.

At each reporting date, the Company assesses whether there is objective evidence that a financial instrument has been impaired. In the case of available-for-sale financial instruments, a significant and prolonged decline in the value of the instrument is considered to determine whether an impairment has arisen.

As of December 31, 2016, the Company has derivative liabilities of \$Nil (2015: \$Nil) in warrants denominated in a foreign currency.

The Company classifies its financial instruments as follows:

Cash and cash equivalents	loans and receivables
Guaranteed investment certificates	loans and receivables
Accounts payable and accrued liabilities	other financial liabilities
Warrants denominated in a foreign currency	fair value through profit and loss

Fair value measurement hierarchy

IFRS 7 requires certain disclosures which require the classification of financial assets and financial liabilities measured at fair value using a fair value hierarchy that reflects the significance of the inputs used in making the fair value measurement. The fair value hierarchy has the following levels:

- (a) quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1);
- (b) inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices) (Level 2); and
- (c) inputs for the asset or liability that are not based on observable market data (unobservable inputs) (Level 3).

The level in the fair value hierarchy within which the financial asset or financial liability is categorised is determined on the basis of the lowest level input that is significant to the fair value measurement. Financial assets and financial liabilities are classified in their entirety into only one of the three levels.

Impairment of Financial Assets

At each reporting date, the Company assesses whether there is objective evidence that a financial asset carried at amortized cost is impaired. If such evidence exists, the impairment loss is the difference between the amortized cost of the loan or receivable and the present value of the estimated future cash flows, discounted using the instrument's original effective interest rate. The carrying amount of the asset is reduced by this amount either directly or indirectly through the use of an allowance account. Impairment losses on financial assets carried at amortized cost are reversed in subsequent periods if the amount of the loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized.

4. **Summary of Significant Accounting Policies - continued**

o) Share Capital

Equity instruments are contracts that give a residual interest in the net assets of the Company. Financial instruments issued by the Company are classified as equity only to the extent that they do not meet the definition of a financial liability or financial asset. The Company's common shares, share options and warrants are classified as equity instruments. Incremental costs directly attributable to the issue of new shares, warrants, or options are shown in equity as a deduction, net of tax, from the proceeds.

The Company's ordinary shares are classified as equity instruments.

5. **Accounting Standards, Amendments and Interpretations**

a) New Standards, Amendments and Interpretations Effective for the first time from January 1, 2016

Certain pronouncements were issued by the IASB or the IFRS Interpretations Committee that are mandatory for accounting periods beginning on or after January 1, 2016 or later periods.

There were no new standards or interpretations effective for the first time for periods beginning on after January 1, 2016 that had a material impact on these consolidated financial statements.

b) Standards, Amendments and Interpretations Not Yet Effective

Certain pronouncements were issued by the IASB or the IFRS Interpretations Committee that are not mandatory for accounting periods beginning on or after January 1, 2016. They have not been early adopted in these consolidated financial statements, and are expected to affect the Company in the period of initial application. In all cases the Company intends to apply these standards from application date as indicated below:

- Amendment to IFRS 7, Financial Instruments: Disclosure

Amended to require additional disclosures on transition from IAS 39 to IFRS 9. Effective on adoption of IFRS 9, which is effective for annual periods commencing on or after January 1, 2018. The Company is currently evaluating the impact this standard is expected to have on its consolidated financial statements.

- IFRS 9 Financial Instruments

IFRS 9 reflects all phases of the financial instruments project and replaces IAS 39 Financial Instruments: Recognition and Measurement and all previous versions of IFRS 9. The standard introduces new requirements for classification and measurement, impairment, and hedge accounting. IFRS 9 is effective for annual periods beginning on or after January 1, 2018, with early application permitted. The Company is currently evaluating the impact this standard is expected to have on its consolidated financial statements.

- IFRS 15 Revenue from Contracts with Customers

The standard replaces IAS 18 Revenue and IAS 11 Construction contracts, and contains a single model that applies to contracts with customers and two approaches to recognizing revenue: at a point in time or over time. The model features a contract-based five-step analysis of transactions to determine whether, how much and when revenue is recognized. New estimates and judgmental thresholds have been introduced, which may affect the amount and/or timing of revenue recognized. IFRS 15 is effective for annual periods beginning on January 1, 2018. Currently, no impact on the Company's consolidated financial statements is expected.

5. Accounting Standards, Amendments and Interpretations - *continued*

- IFRS 16 Leases

The new standard will replace IAS 17 Leases and eliminates the classification of leases as either operating or finance leases by the lessee. The treatment of leases by the lessee will require capitalization of all leases resulting accounting treatment similar to finance leases under IAS 17 Leases. Exemptions for leases of very low value or short-term leases will be applicable. The new standard will result in an increase in lease assets and liabilities for the lessee. Under the new standard the treatment of all lease expense is aligned in the statement of earnings with depreciation, and an interest component recognized for each lease, in line with finance lease accounting under IAS 17 Leases. IFRS 16 will be applied prospectively for annual periods beginning on January 1, 2019. The Company is currently evaluating the impact this standard is expected to have on its consolidated financial statements.

There are no other IFRS or IFRIC Interpretations that are not yet effective that would be expected to have a material impact on the Company.

6. Reverse Takeover Transaction and 583885 B.C. Ltd.

On December 22, 2010, RepliCel closed a Share Exchange Agreement with TrichoScience Innovations Inc. (“TrichoScience”) whereby RepliCel acquired the issued and outstanding shares of TrichoScience. Concurrent with the reverse acquisition, RepliCel also acquired all of the issued and outstanding common shares of 583885 B.C. Ltd. (“583885”) in exchange for 440,000 common shares of RepliCel. 583885 did not have any assets or liabilities at the date of acquisition and was a private company controlled by RepliCel’s incoming Chief Executive Officer (“CEO”). 340,000 shares of RepliCel controlled by the Company’s CEO were deposited with an escrow agent pursuant to the terms of an escrow agreement between RepliCel and the escrow agent. These shares are released upon satisfaction of certain performance conditions as set out in the escrow agreement and each release of shares from escrow will be considered a compensatory award. The Compensatory award is recorded as an expense at the fair value of the consideration given based on the price of RepliCel’s common shares on the acquisition date. This amount was determined to be US\$5.00 per share, based on the price of the shares being offered in the private placement that closed concurrent with the share exchange to arm’s length parties at a price of US\$5.00.

During the year ended December 31, 2016, 170,000 common shares held in escrow were released and 60,000 common shares were cancelled and returned to the Company in connection with the resignation of the Company’s previous CEO. Stock based compensation of \$341,000 (representing the fair value of the shares that were released when the escrow agreement was modified) was recognized for these shares during the year-ended December 31, 2016 (year-ended December 31, 2015: \$nil). The fair value of the shares on modification was \$3.10. The other 100,000 common shares issued were not subject to escrow provisions and thus were fully vested, non-forfeitable at the date of issuance.

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7. Equipment

	Furniture and Equipment	Computer Equipment	Total
Cost:			
At December 31, 2015	\$ 14,249	\$ 41,751	\$ 56,000
Additions	-	-	-
Disposals	-	-	-
At December 31, 2016	14,249	41,751	56,000
Depreciation:			
At December 31, 2015	8,749	26,151	34,900
Depreciation	1,100	4,680	5,780
At December 31, 2016	9,849	30,831	40,680
Net book value at December 31, 2016	\$ 4,400	\$ 10,920	\$ 15,320
Cost:			
At December 31, 2014	\$ 14,249	\$ 39,559	\$ 53,808
Additions	-	2,192	2,192
Disposals	-	-	-
At December 31, 2015	14,249	41,751	56,000
Depreciation:			
At December 31, 2014	7,496	20,429	27,925
Depreciation	1,253	5,722	6,975
At December 31, 2015	8,749	26,151	34,900
Net book value at December 31, 2015	\$ 5,500	\$ 15,600	\$ 21,100

8. Share Capital

a) Authorized:

Unlimited common shares without par value

Unlimited Class A non-voting, convertible, redeemable, non-cumulative 6% preferred shares without par value

b) Issued and Outstanding:

During the year-ended December 31, 2016:

- i) On October 14, 2016, the Company has entered into a debt settlement agreement whereby the aggregate amount of \$374,072 owed by the Company to certain creditors will be settled by the issuance of 719,368 units (each, a "Unit"). Each Unit consists of one common share of the Company (each, a "Share") and one share purchase warrant (each, a "Warrant"), with each Warrant entitling the holder to purchase one additional Share for a period of two years at a price of \$1.10 per Share.

The Warrants will be subject to an acceleration provision such that in the event that the Shares have a closing price on the TSX Venture Exchange (the "TSXV") of greater than \$2.00 per Share for a period of 10 consecutive trading days at any time after four months and one day from the closing of the Debt Settlement, the Company may accelerate the expiry date of the Warrants by giving notice to the holders thereof and, in such case, the Warrants will expire on the 30th day after the date on which such notice is given to the holder.

The Company received the approval of the Debt Settlement from the TSXV and issued the Shares and the Warrants on December 28, 2016.

- ii) The Company closed a non-brokered private placement on October 28, 2016 of 8,199,999 units (each, a "Unit") at a price of \$0.52 per Unit for proceeds of \$4,263,999 (the "Offering"). Each Unit consists of one common share of the Company (each, a "Share") and one share purchase warrant (each, a "Warrant"), with each Warrant entitling the holder to purchase one additional Share for a period of two years from the closing of the Offering at a price of \$0.52 per Share. In connection with the Offering, the Company paid \$214,374 in finders' fees, issued 339,391 finder's warrants and 12,000 finder's Units.

The Warrants are subject to an acceleration provision such that in the event that the Shares have a closing price on the TSX Venture Exchange of greater than \$2.00 per Share for a period of 10 consecutive trading days at any time after four months and one day from the closing of the Offering, the Company may accelerate the expiry date of the Warrants by giving notice to the holders thereof and, in such case, the Warrants will expire on the 30th day after the date on which such notice is given to the holder.

The fair value of the agent's warrants have been estimated using the Black Scholes option pricing model. The assumptions used to determine the fair value were as follows: (1) dividend yield – 0%; (2) expected volatility – 102%; (3) a risk-free interest rate of 0.70%; (4) an expected life of 24 months. The value assigned to the agent's warrants was \$176,483.

- iii) On July 22, 2016, the Company's board of directors authorized a plan to proceed with a consolidation of its outstanding common shares on the basis of ten (10) pre-consolidation Shares for one (1) post-consolidation Share. This plan was approved on August 10, 2016. The financial statements have been adjusted to reflect this consolidation.

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- iv) On April 4, 2016, the Company closed a non-brokered private placement of 188,763 shares at a price of \$2.00 per share for gross proceeds of \$377,525. There were no warrants attached to the financing.
- v) On June 1, 2016, the Company closed a non-brokered private placement of 138,000 common shares at a price of \$1.50 per share for gross proceeds of \$207,000. There were no warrants attached to the financing.

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8. Share Capital - continued

b) Issued and Outstanding - continued

- vi) The Company issued common shares upon the exercise of warrants that had been issued April 10, 2013 through June 16, 2014. The Company issued 111,362 warrants at an exercise price of \$2.20 for gross proceeds totaling \$244,997. 111,362 additional common share purchase warrants were granted in connection with the warrant exercise, with each warrant entitling the holder to purchase one additional common share expiring on February 25, 2018 at a price of \$4.00 per share.

During the year-ended December 31, 2015:

- i) The Company completed a private placement consisting of a total of 657,509 units at a price of \$3.10 per unit for total gross proceeds of \$2,038,279. Each unit consisted of one common share of the Company and one common share purchase warrant, which entitles the holder to purchase one additional common share for a period of three years from the closing of the private placement at a price of \$5.10 per share. Finder's fees of \$94,881 were paid in cash and 30,607 agent's options where each agent's option entitles the agent the option to purchase one unit ("Agent's Unit") of the Company at a price of \$3.10 per Agent's Unit expiring two years from the closing of the private placement. Each Agent's Unit consists of one common share of the Company and one common share purchase warrant, which entitles the agent to purchase one additional common share expiring June 25, 2017 at a price of \$5.10 per share. The fair value of the agent's options have been estimated using the Binomial option pricing model. The assumptions used to determine the fair value were as follows: (1) dividend yield – 0%; (2) expected volatility – 80%; (3) a risk-free interest rate of 0.62%; (4) an expected life of 24 months. The value assigned to the agent's warrants was \$36,422.
- ii) The Company completed a private placement consisting of a total of 195,800 units at a price of \$3.10 per unit for total gross proceeds of \$606,980. Each unit consisted of one common share of the Company and one common share purchase warrant, which entitles the holder to purchase one additional common share for a period of two years from the closing of the private placement at a price of \$4.00 per share. Finder's fees of \$46,079 were paid in cash and 14,864 agent's options where each agent's option entitles the agent the option to purchase one unit ("Agent's Unit") of the Company at a price of \$3.10 per Agent's Unit expiring two years from the closing of the private placement. Each Agent's Unit consists of one common share of the Company and one purchase warrant, which entitles the agent to purchase one additional common share expiring two years from the closing of the private placement at a price of \$4.00 per share. The fair value of the agent's options have been estimated using the Binomial option pricing model. The assumptions used to determine the fair value were as follows: (1) dividend yield – 0%; (2) expected volatility – 80%; (3) a risk-free interest rate of 0.50% - 0.61%; (4) an expected life of 24 months. The value assigned to the agent's warrants was \$16,378.

During the year-ended December 31, 2014:

- (i) The Company issued common shares upon the exercise of warrants that had been issued February 28, 2012 through April 20, 2012. The Company issued 150,851 common shares at a price of US\$5.00 per share for gross proceeds of \$834,218, plus \$212,449 being the fair value of the warrants on the date of exercise. A total of \$1,046,667 was recognized in common stock.
- (ii) The Company completed private placements consisting of a total of 532,016 units at a price of \$7.50 per unit for total gross proceeds of \$3,990,125. Each unit consisted of one common share of the Company and one common share purchase warrant, which entitles the holder to purchase one additional common share for a period of two years from the closing of the private placement at a price of \$10.00 per share during the first year and \$12.50 per share during the second year. Finder's fees of \$291,215 were paid in cash, and 35,633 agent's warrants with a 24 month life, and an exercise price of \$7.50 per agent's warrant were issued. The fair value of the agent's warrants have been estimated using the Black-Scholes option pricing model. The assumptions used to determine the fair value were as follows: (1) dividend yield – 0%; (2) expected volatility – 89%; (3) a risk-free interest rate of 1.06%; (4) an expected life of 24 months. The value assigned to the agent's warrants was \$129,247.

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8. Share Capital - continued

c) Stock Option Plans:

- (i) On May 21, 2014, the Company approved a Stock Option Plan whereby the Company may grant stock options to directors, officers, employees and consultants. The maximum number of shares reserved for issue under the plan cannot exceed 10% of the outstanding common shares of the Company as at the date of the grant. The stock options can be exercisable for a maximum of 10 years from the grant date and with various vesting terms.
- (ii) Under various Founders' Stock Option Agreements, certain founders of TrichoScience granted stock options to acquire TrichoScience shares to employees and consultants of TrichoScience. These founders' options are exercisable at \$1 per share expiring after six to seven years. Pursuant to the Share Exchange Agreement, the Founders Stock Option Agreements were converted into rights to receive the number of Founders' RepliCel shares acquired by conversion of the founders TrichoScience shares under the Share Exchange Agreement. All other terms remained the same. This modification of stock options resulted in no incremental value and therefore no additional stock based compensation expense was recognized for the modification.

d) Fair value of Company Options Issued from January 1, 2014 to December 31, 2016

During the year ended December 31, 2016, the Company granted an aggregate of 1,080,000 (2015: 150,000; 2014: 1,280,000) stock options to certain directors, officers, contractors and consultants pursuant to the Stock Option Plan. Each option is exercisable for a period of 5 years at a price of \$0.60 per common share. During the year ended December 31, 2016, nil options (2015: 200,000; 2014: 200,000) were forfeited. The range of exercise price is \$0.36 to \$0.85, expected life of five to seven years, and vesting over one year to five years from the date of grant.

The weighted-average grant date fair value of options granted was estimated using the following weighted average assumptions:

	2016	2015	2014
Risk free rate	0.99%	0.77%	1.69%
Expected life (years)	5	5	5
Volatility	68%	80%	89%
Expected Dividend	\$ -	\$ -	\$ -
Expected forfeiture rate	0%	0%	0%
Exercise price	\$ 0.60	\$ 0.36	\$ 0.64
Grant date fair value	\$ 0.70	\$ 0.23	\$ 0.52

The volatility assumption is based on the pattern and level of historical volatility of a sample of entities in the life sciences industry for the first seven years in which the shares of those entities were publicly traded.

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8. Share Capital - *continued*

d) Fair value of Company Options Issued from January 1, 2016 to December 31, 2016 - *continued*

Options Issued to Employees

The fair value at grant date is determined using a Black-Scholes option pricing model that takes into account the exercise price, the term of the option, the impact of dilution, the share price at grant date and expected price volatility of the underlying share, the expected dividend yield, the expected forfeiture rate and the risk free interest rate for the term of the option.

Options Issued to Non-Employees

Options issued to non-employees, are measured based on the fair value of the goods or services received, at the date of receiving those goods or services. If the fair value of the goods or services received cannot be estimated reliably, the options are measured by determining the fair value of the options granted, using a valuation model.

e) Stock-based Compensation

The Company recognized a fair value of \$826,307, as stock based compensation expense for stock options granted under the Company Stock Option Plan and the Founders Stock Option Agreements; for the year-ended December 31, 2016 (December 31, 2015: \$131,714; December 31, 2014: \$784,395).

A summary of the status of the stock options outstanding under the Company Stock Option Plan for the year-ended December 31, 2016 and the year ended December 31, 2015 is as follows:

	Number of Options		Weighted Average Exercise Price
Outstanding, January 1, 2016	484,000	\$	7.10
Granted	1,025,000		0.60
Cancelled	(92,000)		5.51
Outstanding, December 31 2016	1,417,000	\$	2.89
Exercisable, December 31, 2016	1,412,000	\$	1.43
Outstanding, January 1, 2015	489,000	\$	6.70
Granted	15,000		3.60
Forfeited	(20,000)		9.70
Outstanding, December 31, 2015	484,000	\$	7.10
Exercisable, December 31, 2015	455,500	\$	7.20

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8. Share Capital – continued

e) Stock-based Compensation – continued

Outstanding, January 1, 2014	381,000	\$	6.40
Granted	128,000	\$	6.40
Forfeited	(20,000)	\$	6.50
Outstanding, December 31, 2014	489,000	\$	6.70
Exercisable, December 31, 2014	419,750	\$	6.90

As at December 31, 2016, the range of exercise prices for options outstanding under the Company Stock Option Plan is CAD\$0.60 - US\$10.00 (2014 and 2015: CAD\$4.10 - US\$10.00) and the weighted average remaining contractual life for stock options under the Company Stock Option Plan is 3.14 years (2015: 3.85 years; 2014: 4.85 years).

f) Escrow Shares

Pursuant to the acquisition described in Note 6.

- i) Nil (December 31, 2015: 170,000; December 31, 2014: 170,000) common shares are held in escrow and are to be released upon the occurrence of certain milestones relating to the Company's hair cell replication technology. These shares have been excluded from the calculation of loss per share. During the year-ended December 31, 2016, 170,000 shares were released from escrow (year ended December 31, 2015: nil; year ended December 31, 2014: nil) and 60,000 shares were cancelled. The Company recognized a fair value of \$341,000, (December 31, 2015: \$nil; December 31, 2014: \$nil) as stock based compensation expense in the statement of operations for the period.
- ii) December 31, 2015: Nil (December 31, 2014: Nil) common shares are being held in escrow under a pooling agreement and were subject to a timed release schedule under which:
- 15% were released on the first day of the Company's fiscal quarter beginning after the one year anniversary of the share exchange (the "First Quarter");
 - 15% were released on the first day of each of the Company's next five fiscal quarters after the First Quarter;
 - the remaining 10% were released on the first day of the ninth fiscal quarter after the First Quarter.

During the year ended December 31, 2015, Nil (December 31, 2014: 175,489) common shares were released from escrow in accordance with the terms of a pooling agreement. As at December 31, 2015, all the common shares have been released from the pooling arrangement. The releases of the shares from escrow are non-compensatory. As the release of these shares is certain, they have been included in the calculation of loss per share. On January 13, 2014, the Company's common shares commenced trading on the TSX Venture Exchange as a Tier 1 issuer under its current trading symbol "RP". RepliCel's common shares were delisted from the Canadian Securities Exchange at the close of trading on January 10, 2014. In connection with the Company's listing on the TSX Venture Exchange, 2,350,868 common shares, which represented approximately 49% of the Company's issued and outstanding shares, were escrowed, with 25% of the escrowed shares being released upon listing and a further 25% every six months. In addition, stock options to acquire up to 140,000 shares are also subject to escrow under the same release schedule. At December 31, 2015, all of the shares and stock options held under escrow have been released. The releases of the shares from escrow are non-compensatory.

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8. Share Capital – continued

g) Warrants denominated in a foreign currency

The continuity of the number of warrants denominated in another currency, each exercisable into one common share, is as follows:

	Warrants Outstanding	\$	Weighted Average Exercise Price
Outstanding, January 1, 2015	25,000		US 20.00
Exercised	-		-
Expired	-		-
Outstanding, December 31, 2015	25,000		US 20.00
Exercised	-		-
Expired	(25,000)		US 20.00
Outstanding, December 31, 2016	-	\$	-

As the warrants are denominated in a currency other than the Company's functional currency, they meet the definition of a financial liability and accordingly are presented as such on the Company's consolidated statement of financial position and are fair valued at each reporting period.

During the year-ended December 31, 2016, nil (December 31, 2015: nil) warrants were exercised.

The warrants entitled holders to purchase an aggregate of 25,000 common shares. The assumptions used to determine the fair value in the year-ended December 31, 2016 were as follows: (1) risk-free rate of 0.54%; (2) dividend yield of nil; (3) an expected volatility of 80%; (4) an expected life of 1.5 months; (5) share price of US\$1.50; and (6) an exercise price of US\$20.00.

During the year-ended December 31, 2014, 150,851 warrants were exercised for US\$5.00 per warrant. The Company issued 150,851 common shares for cash proceeds of \$834,218 (see note 8(b)). The warrants entitle holders to purchase an aggregate of 25,000 common shares. The assumptions used to determine the fair value of \$3,633 at December 31, 2014 were as follows: (1) risk-free rate of 1.00%; (2) dividend yield of nil; (3) an expected volatility of 89%; (4) an expected life of 17 months; (5) share price of US\$3.20; and (6) an exercise price of US\$20.00.

The change in the fair value of the warrants for the year-ended December 31, 2016 was \$nil (December 31, 2015 – gain of \$3,633) and was recorded in the consolidated statement of comprehensive loss.

	December 31, 2016	December 31, 2015
Warrants denominated in a foreign currency, opening balance	\$ -	\$ 3,633
Fair value of warrants issued	-	-
Fair value of warrants exercised (note 7 (b))	-	-
Change in fair value of warrants	-	(3,633)
Warrants denominated in a foreign currency, closing balance	\$ -	\$ -

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8. Share Capital – continued

h) Warrants

The number of warrants outstanding at December 31, 2016, each exercisable into one common share, is as follows:

	Warrants Outstanding	Weighted Average Exercise Price		Expiry	
April 10, 2013	148,227	CAD\$ 5.00		April 10, 2017	*
May 21, 2013	40,000	CAD\$ 5.00		May 21, 2017	*
May 9, 2014	309,983	CAD\$ 10.00	***	May 9, 2018	***
May 21, 2014	60,200	CAD\$ 10.00		May 21, 2018	**
June 16, 2014	66,600	CAD\$ 10.00	***	June 16, 2018	***
June 25, 2015	657,509	CAD\$ 5.10		June 25, 2018	
November 20, 2015	173,900	CAD\$ 4.00		November 20, 2017	
December 23, 2015	21,900	CAD\$ 4.00		December 23, 2017	
February 25, 2016	111,362	CAD\$ 4.00		February 25, 2018	
October 28, 2016	8,199,999	CAD \$0.85		October 28, 2018	
October 28, 2016	339,391	CAD \$0.85		October 28, 2018	
December 28, 2016	719,368	CAD \$1.10		December 28, 2018	
Outstanding, December 31, 2016	10,848,439	CAD \$ 1.65			

	Warrants Outstanding	Weighted Average Exercise Price
Outstanding January 1, 2014	416,860	\$ 5.00
Issued	567,650	9.84
Expired	(187,504)	(4.29)
Outstanding January 1, 2015	797,006	8.30
Issued	853,309	4.85
Outstanding, January 1, 2016	1,650,315	6.50
Issued	9,370,120	0.87
Exercised	(111,362)	(2.20)
Expired	(60,634)	(6.55)
Outstanding, December 31 2016	10,848,439	\$ 1.65

*On April 13, 2016, the Company received approval from the TSX Venture Exchange (the “TSXV”) to extend the term of 204,356 share purchase warrants (the “Warrants”). The original term of 164,356 of the Warrants was two years and expired on April 10, 2015 and the original term of 40,000 of the Warrants was two years and expired on May 21, 2015. The Company previously received an extension from the TSXV for an additional year for the Warrants so that 164,356 Warrants were to expire on April 10, 2016 and 40,000 Warrants were to expire on May 21, 2016. The Company proposed to extend the expiry date for a further one-year period to April 10, 2017 for 164,356 of the Warrants and to May 21, 2017 for 40,000 of the Warrants.

**The Company also announced that it has applied to the TSXV for approval to amend the exercise price of 73,700 warrants (the “2014 Warrants”) issued pursuant to the private placement announced on May 20, 2014 from \$10.00 to \$5.00 for the first year and from \$12.50 to \$5.00 for the second year, and to extend the expiry date from May 20, 2016 to May 20, 2018. The exercise period for the 2014 Warrants will also be amended by reducing the exercise period to 30 days if, for any consecutive trading days during the unexpired term of the 2014 Warrants, the closing price of the Company’s listed shares exceeds \$6.25.

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***On April 29, 2016, the Company received approval from the TSX Venture Exchange (the "TSXV") to extend the term of 376,583 share purchase warrants (the "Warrants"). The original term of 309,983 of the Warrants was two years and expired on May 9, 2016 and the original term of 66,600 of the Warrants was two years and will expire on June 16, 2016. The Company proposed to extend the expiry date for a further two-year period to May 9, 2018 for 309,983 of the Warrants and to June 16, 2018 for 66,600 of the Warrants.

The Company also received approval by the TSXV to amend the exercise price of 309,983 warrants (the "Repriced Warrants") from \$10.00 to \$5.00 for the first year and from \$12.50 to \$5.00 for the second year. The exercise period for the Repriced Warrants will also be amended by reducing the exercise period to 30 days if, for any consecutive trading days during the unexpired term of the Repriced Warrants, the closing price of the Company's listed shares exceeds \$6.25.

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8. **Share Capital – continued**

h) **Warrants – continued**

During the year-ended December 31 2016, the Company offered a warrant incentive program (the “Program”) which allowed holders of warrants to exercise warrants at an exercise price of \$2.20 for a 14-day period up until February 24, 2016. 111,362 warrants were exercised in connection with the Program. If not exercised on or before February 24, 2016, the warrants would be exercisable under their current warrant exercise terms until expiry.

i) **Agent’s Options**

The number of agent’s options outstanding at December 31, 2016, each exercisable into one unit of the Company, is as follows:

	Agent’s Options Outstanding		Weighted Average Exercise Price	Expiry
June 25, 2015	30,607	\$	3.10	June 25,2017(Note 7(b-v)) November 20,2017(Note 7 (b-v))
November 20, 2015	13,912	\$	3.10	December 23,2017(Note 7 (b-v))
December 23, 2015	952	\$	3.10	
Outstanding, December 31, 2016	45,471	\$	3.10	

9. **Related Party Transactions**

Related party balances

The following amounts due to related parties are included in trade payables and accrued liabilities:

	December 31, 2016		December 31, 2015		December 31, 2014
Companies controlled by directors of the Company	\$ 15,250	\$	72,916	\$	-
Directors or officers of the Company	232,491		142,887		9,127
	\$ 247,741	\$	215,803	\$	9,127

These amounts are unsecured, non-interest bearing and have no fixed terms of repayment.

The Company incurred the following transactions with companies that are controlled by directors and/or officers of the Company. The transactions were measured at the exchange amount which approximates fair value, being the amount established and agreed to by the parties.

	December 31, 2016		December 31, 2015		December 31, 2014
Research and development	\$ 1,535	\$	233,910	\$	257,558
	\$ 1,535	\$	233,910	\$	257,558

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9. Related Party Transactions – continued

Key management compensation

Key management personnel are persons responsible for planning, directing and controlling the activities of an entity, and include executive directors, the Chief Executive Officer and the Chief Financial Officer.

	December 31, 2016	December 31, 2015	December 31, 2014
General and administrative – salaries	\$ 285,000	\$ 578,887	\$ 438,500
Stock-based compensation	826,307	42,216	45,986
	\$ 1,111,307	\$ 621,103	\$ 484,486

10. Income Taxes

a) Income tax recognized in profit or loss:

	2016	2015	2014
Canadian current tax expense	\$ -	\$ -	\$ -
Foreign current tax expense	-	-	-
Deferred tax expense	-	-	-
Total	-	-	-

b) Reconciliation of accounting and taxable income, for the years ended December 31 are as follows:

	2016	2015	2014
Net income (loss) for the year before taxes	\$ (4,271,294)	\$ (5,044,012)	\$ (5,198,411)
Combined federal and provincial income tax rate	26.00%	26.00%	26.00%
Expected income tax expense (recovery)	(1,111,000)	(1,311,000)	(1,352,000)
Increase (decrease) resulting from			
Foreign tax rate differential Income taxed at reduced rate	-	-	-
SR&ED credit claims	78,000	(210,000)	(129,000)
Stock-based compensation	189,000	34,000	257,000
Non-deductible items	(55,000)	24,000	16,000
Tax adjustment from rate change and other	-	-	-
Change in unrecognized deferred tax assets	899,000	1,501,000	1,208,000
Income tax expense	\$ -	\$ -	\$ -

c) The components of the deferred tax asset (liability) balances for the years ended December 31, are as follows:

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10. Income Taxes - continued

	2016	2015	2014
Deferred tax assets			
Non-capital losses	\$ 4,703,000	\$ 3,741,000	\$ 2,469,000
Equipment and other	78,000	76,000	74,000
Temporary differences relating to intellectual property costs	136,000	136,000	80,000
Foreign tax credit	412,000	412,000	412,040
Un-deducted SR&ED expenditure pool	320,000	320,000	234,000
Investment tax credit	161,000	239,000	177,000
Share issuance costs	113,000	100,000	77,000
Unrecognized deferred tax assets	(5,923,000)	(5,024,000)	(3,523,040)
	\$ -	\$ -	\$ -

Deferred tax assets in respect of losses and other temporary differences are recognized when it is more likely than not, that they will be recovered against profits in future periods. No deferred tax asset has been recognized as this criteria has not been met.

At December 31, 2016, the Company has Canadian non capital losses totalling approximately \$18,089,000 that expire beginning in 2026:

Year of Expiry	Amount
2026	\$ 6,000
2027	16,000
2028	533,000
2029	863,000
2031	2,080,000
2032	2,290,000
2033	39,000
2034	3,908,000
2035	4,653,000
2036	3,701,000
	\$ 18,089,000

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11. Financial Instruments and Risk Management

As at December 31, 2016, the Company's financial instruments are comprised of cash, GIC, accounts payable and accrued liabilities. The fair values of cash and cash equivalents, accounts payable and accrued liabilities approximate their carrying value due to their short-term maturity.

The Company is exposed through its operations to the following financial risks:

- Currency risk;
- Credit risk;
- Liquidity risk; and
- Interest rate risk.

In common with all other businesses, the Company is exposed to risks that arise from its use of financial instruments. This note describes the Company's objectives, policies and processes for managing those risks and the methods used to measure them. Further quantitative information in respect of these risks is presented throughout these financial statements.

There have been no substantive changes in the Company's exposure to financial instrument risks, its objectives, policies and processes for managing those risks or the methods used to measure them from previous periods unless otherwise stated in this note.

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Company has an exposure to the European Euros as certain expenditures and commitments are denominated in European Euros and the Company is subject to fluctuations as a result of exchange rate variations to the extent that transactions are made in this currency. In addition, the Company holds an amount of cash in US dollars and is therefore exposed to exchange rate fluctuations on these cash balances. The Company does not hedge its foreign exchange risk. At December 31, 2016 the Company held US dollar cash balances of \$565 (US\$420) (December 31, 2015: \$12,229 or US\$8,821). A 1% increase/decrease in the US dollars foreign exchange rate would have an impact of ±\$5 (US\$4) on the cash balance held December 31, 2016.

Credit risk is the risk of an unexpected loss if a customer or third party to a financial instrument fails to meet its contractual obligations. The Company's credit risk is primarily attributable to its cash. The Company limits exposure to credit risk by maintaining its cash with large financial institutions. The Company's maximum exposure to credit risk is the carrying value of its financial assets.

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company manages liquidity risk through the management of its capital structure, more specifically, the issuance of new common shares, to ensure there is sufficient capital in order to meet short term business requirements, after taking into account the Company's holdings of cash and potential equity financing opportunities. The Company believes that these sources will be sufficient to cover the known short and long-term requirements at this time. There is no assurance that potential equity financing opportunities will be available to meet these obligations.

The following table sets out the contractual maturities (representing undiscounted contractual cash-flows) of financial liabilities as at December 31, 2016:

Year of expiry	Accounts payable and accrued liabilities		Total
Within 1 year	\$	621,737	\$ 621,737

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11. Financial Instruments and Risk Management - continued

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. As the Company's cash is currently held in an interest bearing bank account, management considers the interest rate risk to be limited.

Classification of financial instruments

Financial assets included in the statement of financial position are as follows:

Classification		Level	December 31, 2016	December 31, 2015
Cash and cash equivalents	Loans and receivables	Level 1	\$ 60,752	\$ 175,791
Guaranteed investment certificate	Loans and receivables	Level 1	1,450,000	-
			\$ 1,510,752	\$ 175,391

Financial liability included in the statement of financial position are as follows:

Classification		Level	December 31, 2016	December 31, 2015
Accounts payable and accrued liabilities	other financial liabilities	Level 1	\$ 621,737	\$ 1,017,701
			\$ 621,737	\$ 1,017,701

The Company has no financial instruments carried at fair value subject to level 2 or 3 fair value measurements.

12. Commitments and Contingencies

The Company has entered into an operating lease agreement for its office premises. The term of the lease is for three years ending on October 31, 2015. The Company renewed the lease for an additional two years ending on October 31, 2017. Subsequent to period-end, the Company entered into a sublease agreement for the remaining term of the lease. The annual commitments under the lease are as follows:

	2017
	119,756

The Company has entered into a Collaboration and Technology Transfer Agreement with Shiseido Company Limited who have alleged RepliCel breached obligations in the agreement, which may allegedly be terminal to future obligations pursuant to the agreement. The Company has vigorously denied the existence of such a breach and insists on the ongoing validity of the respective obligations on both parties pursuant to the agreement. No litigation or the triggering of other dispute mechanisms has been entered into by either party and the Company's management is actively seeking to continue discussions and/or negotiations. Management maintains the position that any data produced from clinical trials of the technology will, by agreement, be made available to the Company.

From time to time the Company is subject to claims and lawsuits arising from the in the ordinary course of operations. In the opinion of management, the ultimate resolution of such pending legal proceedings will not have a material adverse effect on the Company's financial position.

13. Capital Management

The Company's objective when managing capital is to safeguard the Company's ability to continue as a going concern in order to pursue business opportunities. In order to facilitate the management of its capital requirements, the Company prepares periodic budgets that are updated as necessary. The Company manages its capital structure and makes adjustments to it to effectively support the Company's objectives. In order to continue advancing its technology and to pay for general administrative costs, the Company will use its existing working capital and raise additional amounts as needed.

Management reviews its capital management approach on an ongoing basis and believes that this approach, given the relative size of the Company, is reasonable. The Company considers shareholders' equity and working capital as components of its capital base. The Company can access or increase capital through the issuance of shares, and by sustaining cash reserves by reducing its capital and operational expenditure program. Management primarily funds the Company's expenditures by issuing share capital, rather than using capital sources that require fixed repayments of principal and/or interest. The Company is not subject to externally imposed capital requirements and does not have exposure to asset-backed commercial paper or similar products, with the exception of pooling and escrow shares which are subject to restrictions. The Company believes it will be able to raise additional equity capital as required, but recognizes the uncertainty attached thereto.

The Company's investment policy is to hold cash in interest bearing bank accounts, which pay comparable interest rates to highly liquid short-term interest bearing investments with maturities of one year or less and which can be liquidated at any time without penalties. There has been no change in the Company's approach to capital management during the year-ended December 31, 2016.

14. Non-cash Transactions

Investing and financing activities that do not have a direct impact on current cash flows are excluded from the consolidated statements of cash flow. There were no non-cash transactions during the year-ended December 31, 2016, 2015 or 2014.

15. Segmental Reporting

The Company is organized into one business unit based on its cell replication technology and has one reportable operating segment.

16. Events after the Reporting Date

On February 3, 2017, the Company has granted stock options to a certain director for the purchase of up to 75,000 common shares of the Company pursuant to its Stock Option Plan. Each option is exercisable for a period of five years at a price of \$1.64 per common share.

On February 24, 2017, the Company completed a private placement of 2,532,100 units for gross proceeds of \$3,165,125. Each Unit consists of one common share of the Company, and one share purchase warrant. Each warrant entitles the holder to purchase one additional share for a period of three years from the closing of the financing at a price of \$2.00 per share.

On March 6, 2017, the Company announces that it has applied to the TSX Venture Exchange (the "Exchange") for an amendment to the exercise price of 148,226 non-transferable share purchase warrants (the "April Warrants") expiring April 10, 2017 from \$5.00 to \$1.14 and 173,900 non-transferable share purchase warrants (the "November Warrants") expiring on November 20, 2017 from \$4.00 to \$1.14. All other terms of the April Warrants and the November Warrants will remain the same. The amendment to the exercise price is subject to the approval of the Exchange.

ITEM 18 Financial Statements

Refer to Item 17 - Financial Statements

ITEM 19 Exhibits

The following exhibits are being filed as part of this annual report, or are incorporated by reference where indicated:

- (1) Articles of Incorporation and By-laws**
 - 1.1 Certificate of Continuation dated June 22, 2011 (incorporated by reference from our Annual Report on Form 20-F, filed on April 26, 2012).
 - 1.2 Articles adopted on May 10, 2011 (incorporated by reference from our Annual Report on Form 20-F, filed on April 26, 2012).
 - 1.3 Notice of Articles dated December 5, 2011 (incorporated by reference from our Annual Report on Form 20-F, filed on April 26, 2012).
- (4) Material Contracts**
 - 4.1 Share Exchange Agreement dated October 29, 2010 with TrichoScience Innovations Inc. and the shareholders of TrichoScience Innovations Inc. (incorporated by reference from our Shell Company Report on Form 20-F, filed on December 27, 2010).
 - 4.2 Pooling Agreement dated December 22, 2010 (incorporated by reference from our Shell Company Report on Form 20-F, filed on December 27, 2010).
 - 4.3 Share Exchange Agreement dated October 29, 2010 with 583885 B.C. Ltd. and the shareholders of 583885 B.C. Ltd. (incorporated by reference from our Shell Company Report on Form 20-F, filed on December 27, 2010).
 - 4.4 Escrow Agreement dated December 22, 2010 (incorporated by reference from our Shell Company Report on Form 20-F, filed on December 27, 2010).
 - 4.5 Corporate Consulting Services Agreement dated June 1, 2010 among TrichoScience Innovations Inc. and 583885 B.C. Ltd. (incorporated by reference from our Shell Company Report on Form 20-F, filed on December 27, 2010).
 - 4.6 Collaboration and Technology Transfer Agreement with RepliCel Life Sciences Inc. dated July 9, 2013 (portions of the exhibit has been omitted pursuant to a request for confidential treatment). (incorporated by reference from our Shell Company Report on Form 20-F, filed on March 18, 2014).
- (8) List of Significant Subsidiaries**
 - 8.1 TrichoScience Innovations Inc., a company incorporated under the federal laws of Canada, all of the shares of which are beneficially owned by our company.
- (11) Code of Ethics**
 - 11.1 Code of Ethics (incorporated by reference from our Registration Statement on Form 20-F, as amended, filed on July 15, 2004).
- (12) 302 Certification**
 - [12.1* Section 302 Certification under Sarbanes-Oxley Act of 2002 for Lee Buckler.](#)
 - [12.2* Section 302 Certification under Sarbanes-Oxley Act of 2002 for Tom Kordyback.](#)
- (13) 906 Certification**
 - [13.1* Section 906 Certification under Sarbanes-Oxley Act of 2002 for Lee Buckler.](#)
 - [13.2* Section 906 Certification under Sarbanes-Oxley Act of 2002 for Tom Kordyback.](#)
- (15) Other**
 - [15.1* Consent of BDO Canada LLP](#)

* Filed herewith

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

REPLICEL LIFE SCIENCES INC.

Per: /s/ Lee Buckler
Lee Buckler
Chief Executive Officer, President and Director

Dated: May 1, 2017

Per: /s/ Tom Kordyback
Tom Kordyback
Chief Financial Officer

Dated: May 1, 2017