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NEWS RELEASE

United States Patent Issued to RepliCel for its Novel Dermal Injection Technologies

With exclusive U.S. rights to RCI-02 patents, RepliCel edges its nearest-term commercial asset closer to launch in large aesthetic market

VANCOUVER, BC – April 25, 2017 - RepliCel Life Sciences Inc. (OTCQB:REPCF) (TSXV:RP) (FRA:P6P2) ("RepliCel" or the "Company"), a clinical stage regenerative medicine company developing cell therapies for aesthetic and orthopedic conditions, today announced the granting of a key patent in the United States (U.S. Patent No. 9,616,182) covering significant components of the Company's novel, multi-needle dermal injection device.

In the development of propriety cell therapy products targeting pattern baldness (androgenetic alopecia) and aging or sun-damaged skin, RepliCel's dermatology team identified a need for next-generation dermal injection technologies capable of bringing new levels of precision and control to any substances injected into the skin.

The patent issued by the U.S. Patent and Trademark Office (USPTO) relates to technologies designed to enable both unparalleled control and repeatable consistency of needle action and product deposition. The patent also relates to the element designed to numb the skin prior to injection with the intended effect of reducing, if not eliminating, the need for local anesthetic prior to aesthetic injection procedures.

The first device being developed under this patent, RCI-02, is designed for injecting soft tissue fillers such as hyaluronic acid ("HA"). According to recent statistics released by the American Society for Plastic Surgery (April 2017), there were over 11 million minimally invasive cosmetic procedures performed nationally in 2016: over 80% were wrinkle treatments and hyaluronic acid filler injections, totalling an expenditure of over $3 billion.[1] RCI-02 represents the nearest-term commercial opportunity for the Company, which it intends to have market-ready and in the hands of a co-development licensee and commercial partner next year (2018).

The device is also being developed for the injection of RepliCel's RCH-01 hair restoration and RCS-01 skin rejuvenation products. Future iterations of the device will be optimized for other injectables such as drugs, biologics, vaccines, fat grafts, etc.

The U.S. patent adds to the Company's intellectual property portfolio, which includes two European patents for RCI-02, both granted February 9, 2017. RepliCel's first European patent for its injection technologies (Patent No. 2623146) was validated in a total of fourteen countries, including Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Spain, Switzerland, Sweden and the United Kingdom. The second European Patent (No. 2809381) is now being validated in a number of European countries and is expected to be complete in the near future.

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"We are confident RepliCel's extensive patent estate for its cell therapy and injection devices will provide our products with long-term market exclusivity," said Lee R. Buckler, CEO of RepliCel. "The granting of this U.S. patent is an important addition to RepliCel's formidable intellectual property portfolio, which we believe will further build value for our investors."

"Exclusive U.S. rights to the world's largest aesthetic medical device market represents a significant opportunity for the Company as it addresses an unmet need in the cosmetic dermal injection market," said Dr. Rolf Hoffmann, RepliCel's Chief Medical Officer, a practicing dermatologist and the primary inventor of the RCI-02 injector. "Single needle syringes available today do not have the ability to precisely deliver dermal fillers with predictable and consistent results," he stated.

Dr. Hoffmann continued by saying, "RepliCel's RCI-02 injector has been designed to provide unprecedented reliability, reproducibility, and programmability of three-dimensional skin injections, enabling clinicians better control and consistency, while also providing less-experienced injection specialists with the confidence to undertake these procedures with desired outcomes."

"The Company is on track to have prototypes ready in Q3 2017 for initial functional and usability testing by engineers, as well as, user-groups," continued Mr. Buckler. "This year is about building and testing commercial-grade prototypes. Next year, our goal is to get RCI-02 CE-marked, licensed to a commercial partner and generating revenue."

About RCI-02

The RCI-02 injector was designed with input from dermatologists, industrial designers, and electronic and medical device engineers to improve the delivery of a variety of injectables in a controlled, precise manner, removing the risks and uncertainties of injection outcomes currently resulting from manually operated, single-needle syringes.

RCI-02 is the world's first 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-plains, as the needle retracts through the skin.

Overall benefits of this next-generation dermal injector technology are anticipated to include improved handling, reduction or elimination of the need for local anesthetic, quicker procedure times, improved patient experience, 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.

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The near-term commercial opportunity for RCI-02 is to improve the injection of hyaluronic acid-based dermal fillers. RepliCel's dermatologist advisors believe this device has the potential to significantly expand the number of HA dermal injection procedures currently performed. As an example, the HA market in the United States is currently valued at over US$1 billion per year and is growing at near double digits.[2] These HA injections primarily address deep facial wrinkles and folds, but do not adequately address fine wrinkles. A device, such as RCI-02, which is capable of delivering a controlled injectable, utilizing a multi-head configuration, and eliminating the need for local anesthetic, has the potential to dramatically increase the HA market into new areas including fine wrinkles of the face, the hands and the décolleté.

About RepliCel Life Sciences

RepliCel is a regenerative medicine company focused on developing cell therapies for aesthetic and orthopedic conditions affecting what the company believes is approximately one in three Americans, including aging/sun-damaged skin, pattern baldness, and chronic tendon degeneration. These conditions, often associated with aging, are caused by a deficit of healthy cells required for normal tissue healing and function. The Company's product pipeline is comprised of RCT-01 for tendon repair, RCS-01 for skin rejuvenation, and RCH-01 for hair restoration. RCH-01 is currently being co-developed with and under exclusive license by Shiseido for certain Asian countries. All product candidates are based on RepliCel's innovative technology, utilizing cell populations isolated from a patient's healthy hair follicles. RepliCel has also developed a proprietary injection device RCI-02, optimized for the administration of its products and licensable for use with other dermatology applications. Please visit http://replicel.com/ for additional information.

For more information, please contact:
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References:

1, 2 American Society of Plastic Surgeons (ASPS) Report of 2016 Surgeon/Physician Fees (April 2017) [Press release]. Retrieved from https://www.plasticsurgery.org/news/press-releases/more-than-16-billion-spent-on-cosmetic-plastic-surgery

Forward-Looking Statements

This press release contains forward-looking statements and information that involve various risks and uncertainties regarding future events, including, but not limited to, statements regarding: (i) that the dermal injector device will be market ready in the near term and in the hands of a co-development licensee and commercial partner next year (2018); (ii) that the second European Patent (No. 2809381) will be validated in a number of European countries in the near future; (iii) that the Company's extensive patent estate for its cell therapy and injection devices will provide its products with long-term market exclusivity; (iv) that the Company's intellectual property portfolio will continue to build value for its investors; (v) that the Company will have prototypes ready in Q3 2017 which will be used for initial functional and usability testing by engineers and user-groups; (vi) the Company's goal is to get the injector device CE-marked and licensed to a commercial partner next year in order to generate revenue; (vii) that the dermal injector technology will improve handling, reduction or elimination of the need for local anesthetic, quicker procedure times, improved patient experience, 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; (viii) that the device has the potential to significantly expand the number of HA dermal injection procedures currently performed including into new areas like the fine wrinkles of the face, the hands and the décolleté; (ix) that the device's simplicity and programmability is expected to enable less-experienced injection specialists to deliver predictable and consistent outcomes; and (x) that future iterations of the technology and device will be optimized for other injectables such as

drugs, biologics, vaccines, fat grafts, etc. These statements are only predictions and involve known and unknown risks which may cause actual results and the Company's plans and objectives to differ materially from those expressed in the forward-looking statements, including: the risk that the Company will not obtain CE mark clearance or other necessary regulatory approvals; the risk that there will be delays enrolling clinical trial participants; the risk that the Company's patents will not be granted or validated in one or more countries; the risk that the Company will receive negative results from the Company's clinical trials; the effects of government regulation on the Company's business; risks associated with the Company obtaining approval for its clinical trial in Germany; risks associated with the Company obtaining all necessary regulatory approvals for its various programs in Canada, the USA and Germany; risks associated with the Company's ability to obtain and protect rights to its intellectual property; risks and uncertainties associated with the Company's ability to raise additional capital; and other factors beyond the Company's control. Although the Company believes that the expectations reflected in the forward-looking statements are reasonable, it 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, the Company undertakes 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 the Company's business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statement. Readers should consult all of the information set forth herein and should also refer to the risk factor disclosure outlined in the Company's annual report on Form 20-F for the fiscal year ended December 31, 2015 and other periodic reports filed from time-to-time with the Securities and Exchange Commission on Edgar at www.sec.gov and with the British Columbia Securities Commission on SEDAR at www.sedar.com.

Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

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