

## Shiseido Opens Research Facility Dedicated to Hair Regeneration - Shiseido Cell-Processing and Expansion Center -

[Shiseido Co., Ltd.](#) announces plans to open the Shiseido Cell-Processing and Expansion Center (SPEC) on May 1, 2014. The center, located in the in the Kobe Biomedical Innovation Cluster in Kobe, Japan, will centralize research and development on hair regenerative medicine with an aim toward commercialization. Regenerative medicine in Japan is an emerging industry which the government aims to foster through new legislation and revisions to existing law as part of economic reform strategies, in order to advance in this field. Shiseido has a long history of conducting comprehensive research and working towards commercialization of the regenerative medicine for hair.

### **Shiseido's hair regenerative medicine technology**

With the goal of clinical application of regenerative medicine to treat alopecia and thinning hair, Shiseido concluded a technical collaboration agreement in July 2013 with a Canadian bio-venture company [RepliCel Life Sciences Inc.](#) (hereinafter referred to as “RepliCel”) acquiring an exclusive geographic license to use RepliCel Hair-01 (RCH-01) hair regeneration technology in the entire Asian region, including Japan, which comprises approximately 2.1 billion people.

RCH-01 has been developed over 10 years of scientific research, and safe application in humans has been validated by RepliCel's phase 1 clinical trial. RepliCel has patents issued for hair follicle mesenchymal stem cells and their usage in Japan, the United States, Australia and the EU. RCH-01 is an “autologous cell transplantation technology,” in which specific cells<sup>(1)</sup> isolated from the hair follicles<sup>(2)</sup> taken from the scalp of a patient are cultured and implanted (injected) into the balding scalp area, potentially stimulating residing hair follicles and promoting new growth in the balding scalp area.



(1) Dermal Sheath Cup cells, which are believed to play an important role in promoting hair growth

(2) A hair follicle is a skin organ composed of various cell types that support hair growth and structure.

### **Kobe Biomedical Innovation Cluster**

The Kobe Biomedical Innovation Cluster is one of the core bases of the Kansai Innovation International Strategic Comprehensive Special Zone designated by the Japanese government to promote industrial development in advanced medicine and to provide a competitive advantage in the international market. It is the largest national cluster zone specialized in life sciences, with the focus on promoting translation of leading scientific research and advanced knowledge in regenerative medicine into clinical use.

- Kobe Biomedical Innovation Cluster

Located in Kobe Port Island, it has been endorsed by the city of Kobe to promote its commercialization through integration of industry, academia, and government. There are over 270 biomedical companies, academic, medical, and government organizations situated in this area and working in collaboration towards clinical application of regenerative medicine, and the development of new pharmaceutical products and medical equipment.

- Business Support Center for Biomedical Research Activities

SPEC will be located in the Business Support Center for Biomedical Research Activities, a core facility consisting of research and CPC sections. It has been built to provide support and space for research and commercialization of regenerative medicine.

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### **About regenerative medicine**

Regenerative medicine is a medical approach to restore normal functions of organs and tissues affected by diseases and disorders using human derived cells and their ability to regenerate and replicate. There are largely two types: "autologous cell transplantation," which uses one's own cells, and "allogenic cell transplantation," which uses cells donated by someone else. The RCH-01 technology that Shiseido has licensed is based on the former and has minimal side effects and no risk of immune rejection.

Currently, the market size for regenerative medicine in Japan is said to be about 9 billion yen. According to the Study Group of the Ministry of Economy, Trade and Industry, however, it is estimated to increase by 278 fold to a 2.5 trillion-yen industry by 2050. In November 2013, the Japanese government passed the Regenerative Medicine Law, which ensures safety of regenerative medicine and approved revisions to the existing Pharmaceutical Affairs Law to improve development of regenerative medicine and to promote commercialization as one of the new economic reform strategies. Due to highly anticipated growth in this industry and newly adopted changes in the legal framework, Shiseido has decided to enter into regenerative medicine.

### **Current treatment for hair loss and thinning hair**

The scale of the alopecia and thinning hair-related market, which encompasses hair transplant, wigs, hair growth support, pharmaceutical and non-pharmaceutical products for hair growth, is estimated to reach about 200 billion yen<sup>(3)</sup> in Japan alone.

In addition, there is an orally administered anti-androgen drug recently approved to treat male pattern baldness, and an injectable growth factor for the scalp to promote hair growth is currently being developed. The limitation in the anti-androgen drug, however, is that its use in women is not approved.

(3) Yano Research Institute, 2012

### **History of Shiseido's hair restoration and hair growth activities**

Shiseido was founded in 1872 as Japan's first Western-style pharmacy. In 1898, Shiseido launched "Euthrixine Hanatsubaki Perfume" and in 1915, the hair tonic solution "Flowline" was developed. With a strong pharmacy background, Shiseido has been conducting scientific research in hair regeneration from the early years of the company history. In 1982, "Medicated Flowline" was released, followed by the 2005 release of "Medicated Adenogen," which contained adenosine, a bio-related component, as an active ingredient. The release of "The Haircare Adenovital Scalp Essence" marked record sales of more than 2.3 million units<sup>(4)</sup> throughout Asia since its release in February 2011. With Shiseido's advanced research at the cellular and genetic level and long history in development of hair regeneration products, this area has become one of the strengths of the company.

(4) Based on shipment

### **About Shiseido**

Founded in 1872 as the first Western-style pharmacy in Japan, Shiseido this year marks 142 years of delivering beauty and wellness. From its beginning, Shiseido has combined the best of Eastern and Western technologies and aesthetics with its own originality to produce cosmetic products of the highest standards. Today, with five regional research centers and more than 1,000 dedicated researchers working around the globe, the company also funds and partners with world-renowned researchers and institutions to achieve the most advanced technology and cosmetic science. In constant pursuit of optimal beauty, health, and wellbeing, Shiseido upholds its "Mission, Values, Way" corporate philosophy in each activity and every customer interaction. As a leading global cosmetic group with more than over 100 brands in its family, including NARS, Bare Escentuals, and Beauté Prestige International (BPI), Shiseido totals over \$7 billion in annual sales and has presence in 121 countries and regions.

### **About RepliCel Life Sciences**

RepliCel is a regenerative medicine company focused on developing autologous cell therapies that treat functional cellular deficits including chronic tendinosis, pattern baldness, and skin aging. Initiation of Phase 2 trials are planned for 2014 on RepliCel's RCT-01 treatment for Achilles tendinosis and RCH-01 treatment for pattern baldness. For additional information please visit [www.replicel.com](http://www.replicel.com).

Location: Vancouver, Canada

Market Cap: CND \$ 35,452,514.00 (as of March 31, 2014)

Traded on TSX-V, Trading Symbol RP

CEO and President: David Hall