

RUBISCO: Development of active ingredients from cell cultures

DESCRIPTION

Rubisco is a company that develops active ingredients from the cell culture of native Chilean plants with applications in a wide range of dermo-cosmetic products, minimizing the impact on the environment, and providing high-value solutions. Working together with the Fundación Copec UC, we have worked on a project to package the development of an ingredient based on Larch (*Fitzroya cupressoides*), the second longest-living species in the world. This work resulted in a publication in the *Journal Cosmetic Dermatology* (J. Cosmet Dermatol. 2019; 00: 1–6.) That supports the efficacy results of cell extracts on human skin tissues with cellular regeneration activity, which translates into interesting anti-aging properties for the cosmetic industry. On the other hand, a patent that is in the PCT phase was filed.

ADVANTAGE

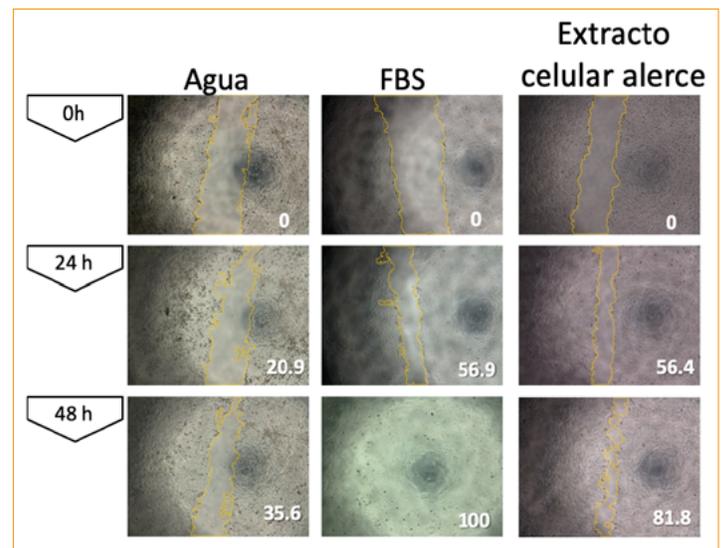
1. Highly effective multifunctional active ingredients with highly attractive regenerative properties for the cosmetic industry.
2. Value offer based on science and exceptional attributes of unique and authentic species.
3. Speed of development: cell culture technology allows standardized ingredients to be obtained with high yields and within competitive terms for the industry.
4. Sustainability in the value chain: Take advantage of the potential of ancient Chilean protected species such as Larch without the need to exploit the natural resource, enhancing the country's image.

MARKET

The global beauty and personal care market is estimated to reach a value of USD 576 billion by 2021 and experiences a high growth of 5.1% for the period 2016-2021 (Euromonitor). The skincare segment represents the dominant category with a projection of \$ 190 billion, particularly for this segment, growth for the coming years is being driven by products with anti-aging properties, cell regeneration promotion and multifunctional properties that deliver a final product. with multiple benefits avoiding the use of numerous products with the skin beauty routine. The skincare segment is expected to generate innovations on this line based on technological advance and development with ingredients that are more effective and safer.

The global cosmetic market provides the active ingredients for the development of new skincare formulations, it is estimated that this market reached US \$ 22.89 bn in 2016 with a growth projection of 4.60% during the period 2017-2025, which projects for 2025 a value of US \$ 33.80 bn. (Transparency Market Research).

North America, Europe and Pacific Asia stand out among the most relevant regions due to market share, the latter being the region with the highest growth projections for the coming years.



▲ Scratch tests on keratinocyte cells. The closure of the wound of the HaCaT cells are accelerated by larch cell culture extract. Representative microscopic images of wounds at 0, 24 and 48 h. The migratory borders were delineated using a yellow line. The concentrations used are 10% fetal bovine serum (FBS) and 0.125% larch cell culture extract. The percentage of wound closure is indicated at the bottom of each figure

INVENTOR



► **Felipe Aquea**
Biologist, PhD in plant physiology and
biobusiness PUC
Founder
faquea@rubiscochile.com

OPPORTUNITY

The cosmetic industry is a highly competitive market and faces new challenges from consumers and from a planet that demands more sustainable and multifunctional solutions.

Today the focus of consumers is on achieving a healthy appearance, which has consolidated the preventive approach to avoid the appearance of signs of aging through routines that take care of the quality of the skin. On the other hand, consumers look for brands and products that have ethical and social values. In this context, sustainable practices take on so much relevance. This translates into the demand for a new generation of cosmetic products to promote healthy, balanced and protected skin from agents such as radiation and pollution, but at the same time that they have differentiating attributes. Added to this is a growing trend for clean labels that places demands on simple formulations and the rejection of inputs of synthetic or artificial origin.

RECOGNITION

CORFO co-financing

APPLICATIONS

- The ingredient is suitable for application in a wide range of cosmetic anti-aging formulations such as facial creams, eye contour creams, serums and cleansing tonics.

INTELLECTUAL PROPERTY

- Current status: Patent pending PCT, Larch PCT Submission (WIPO Publication Number 2018002863)
- Technology owners: Rubisco Biotechnology and Fundación Copec UC
- Patents: 1

STATE OF DEVELOPMENT OF TECHNOLOGY

Larch development is in the functional prototype stage, it has in vitro efficacy validation for its skin regeneration properties endorsed with scientific publication, development of type publications and is currently in the prospecting phase for scale-up industrial.

FOR MORE INFORMATION

Fundación
COPEC • UC



► **Fundación
Copec-UC**

Atilio Ziomi
Commercial Manager
aziomi@uc.cl
+56 2 2354 1942



► **Rubisco
Biotechnology**

Olivia Valdes
Business Development
oliviavp@gmail.com
9 92 24 7231