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A fresh look that doesn't cost the earth

PhytoCellTec™ plant stem cells revolutionize the use of rare plant species in cosmetics

The properties of most cosmetic products are defined by active ingredients. Plants have always been a precious source of biologically active substances for cosmetic formulations. Being a fast moving market, researchers in the cosmetics industry desperately seek innovative yet sustainable ingredients. However, new material is limited as many plants have endangered species status or cannot be harvested. Meanwhile, plant cultivations require considerable natural resources and are time consuming to arrange. Consequently, they do not comply with today's sustainability requirements.

An eco-breakthrough in natural cosmetic ingredients

Mibelle Biochemistry has made a breakthrough in this area by developing PhytoCellTec™. For the first time, plant stem cells have been cultivated from rare and endangered plants for use in

cosmetics. This biotechnology is an innovative and sustainable source of novel high performing cosmetic actives.

Unlike with human cells, every plant cell has the potential to de-differentiate from a normal cell to a stem cell and to multiply as such. PhytoCellTec™ is based on this unique toti-potency of plant cells which is initiated by the wound-healing mechanism of a plant. After a selected part of a plant is wounded to induce the formation of callus cells, this wound healing tissue consists of de-differentiated cells, i.e. plant stem cells. These cells can then be cultivated in defined nutrient medium using specially designed bioreactors to achieve large scale production.

The many benefits

This innovative technology delivers sustainability by preserving endangered plants, being 100% natural and requiring no cultivation.





As regards quality, it contains most active molecules (ensuring high efficacy), the plant material is available regardless of the season or market demand and the preparation is fully reproducible.

PhytoCellTec™ plant stem cells – creating a youthful appearance

In 2008, Mibelle Biochemistry launched PhytoCellTec™ Malus Domestica. This is the first cosmetic active ingredient based on plant stem cells and is derived from a rare Swiss apple breed known for its longevity. Only the cultivation of stem cells made the use of this almost extinct apple possible for cosmetics. Clinically proven anti-aging results of the apple stem cells as well its eco-friendly production resulted in immediate interest from the global cosmetic industry. Often described as “the miracle anti-aging apple” PhytoCellTec™ Malus Domestica active can now be found in hundreds of global cosmetic products. It increases the skin’s vitality and successfully fights both environmental and chronological skin aging. Featuring the same technology Mibelle Biochemistry has developed further products from other special plant species. This includes PhytoCellTec™ Alp Rose which is based on stem cells from Swiss alpine roses that protect the skin against barrier disruption and therefore maintain skin moisture.

All PhytoCellTec™ products slow skin aging by protecting the most valuable skin cells - the stem cells - ensuring the skin’s youthfulness. Mibelle Biochemistry has a patent pending for the application of

plant stem cells to protect skin stem cells. All actives based on this technology are 100% natural and ensure the sustainable use of endangered plants.

Mibelle Biochemistry (Switzerland) designs and develops innovative, sustainable and high performing actives based on naturally derived compounds. Mibelle Biochemistry’s “Inspired by nature – Realized by science” motto guides its efforts at combining nature and science through a plant stem cell cultivation technique.

Background information about the Organization

Mibelle Biochemistry (Switzerland) designs and develops innovative, sustainable and high performing actives based on naturally derived compounds. Mibelle Biochemistry’s “Inspired by nature – Realized by science” motto guides its efforts at combining nature and science through a sustainable plant stem cell cultivation technique.

Key message

PhytoCellTec™ - An eco-breakthrough in natural cosmetic ingredients

PhytoCellTec™ is the first approach at cultivating plant stem cells from rare and endangered plants that can then be used in cosmetics. This biotechnology provides a highly innovative and sustainable source of novel high performing cosmetic actives. ■