

Monday 24th June 2013, 3-4pm (Singapore Time)

FormulaCare Webinar

Plant Stem Cells in Cosmetics

Activity and Marketing Benefits

by Dr. Fred Zülfi (Managing Director of Mibelle Biochemistry)

The skin undergoes a constant cell turnover in order to maintain, renew and repair its tissue. Responsible for this regenerative capacity are adult stem cells residing in special niches in different layers of the skin. Stem cells are defined by their ability to self-renew and to differentiate into mature specialised cell types. However, stem cells too are subject to aging resulting in reduced viability and a decreased stem cell pool. The depletion of stem cell activity is as a major cause of skin aging. Therefore cosmetic ingredients that vitalize skin stem cells have a real anti-aging potential.

Plant stem cell extracts stimulate human epidermal stem cell activity

Mibelle Biochemistry has developed a novel plant cell culture technology enabling large-scale cultivation of plant stem cells. This so called PhytoCellTec™ method is based on the unique toti-potency of plant cells. Extracts from plant stem cells were tested for anti-aging effects on skin by the colony forming efficacy test. Skin stem cell cultures incubated with the plant stem cell extracts significantly improved the colony forming efficacy. This clearly indicates that the plant stem cells protect and activate epidermal stem cells.

Stem cell cosmetics

Starting from these initial experiments with apple stem cells from a rare Swiss apple tree the cosmetic industry has generated a new global trend: "Stem Cell Cosmetics". The use of plant derived stem cells in all type of cosmetic formulations allows the protection and vitalization of human skin stem cells. This offers novel anti-aging concepts. Hundreds of brands around the world have launched new products based on this concept since 2008 when apple stem cells were offered to the market first.

Future trends

The first target of stem cell cosmetics were the epidermal stem cells found at the basal layer of the epidermis. The next generation of stem cell products is targeting the dermis for a deep rejuvenation. There dermal stem cells, discovered in the dermal papilla region of hair follicles, differentiate into fibroblast cells, which produce collagen and elastin. Our in-vitro and in-vivo studies with Argan stem cells show a vitalization of human dermal stem cells.

About Dr. Fred Zülli



Dr. Fred Zülli is the Managing Director of Mibelle Biochemistry Switzerland a profit centre of Mibelle Group which develops and produces active ingredients for the personal care industry.

He founded Mibelle Biochemistry 22 years ago and invented a large number of patent protected actives based on different technologies.

He previously worked at the Nestle Research Centre in Switzerland. His research focussed on molecular biology and genetics of commercial baker's yeast strains.

Dr. Fred Zülli studied chemical engineering at the Technical Engineering School of Winterthur Switzerland and continued his studies at the ETH in Zurich to study molecular biology and biophysics. In his Ph.D. thesis at the ETH he investigated the thermostability of bacterial enzymes.

Contact Information

Dr. Fred Zülli

Mibelle AG

Biochemistry

Bolimattstr 1

5033 Buchs

Switzerland

Tel +41 62 836 13 45

Fax +41 62 836 14 05

Email fred.zuelli@mibellegroup.com