MPC™ – Milk Peptide Complex

Apart from the role of milk as a nearly complete food which is sustaining life processes, the external cosmetic use of functional and biological active milk preparations has a tradition since ancient times. Milk products can soothe stressed skin, improve the moisture binding capacity and increase skin smoothness. Especially milk produced directly after birth, colostral milk, has an exceptional biological activity, which is important for the stimulation of development processes in newborns. CLR has developed a production process enabling the transfer of mature milk in food quality to an activity status of colostral milk. Compared to colostrum the resulting product MPC-Milk Peptide Complex is stable with a proven activity spectrum that remained unchanged over years. The activity is based on activated "Polypeptide Growth Factors" or "Cytokines" being the key regulators of cell functions. MPC was shown to be a strong activator of regenerative cell functions.

MPC is acting as a booster of collagen synthesis and that of other Extra Cellular Matrix (ECM) compounds leading to a reorganization of the ECM. These *in vitro* results proving the reconstitution of regenerative functions of MPC were confirmed also *in vivo* in several tests on humans. MPC helps the skin to restore its functions and appearance in relation to its respective age.

Quality of the skin contributes to the beauty and social acceptance of an individual. Age-related changes are immediately apparent to others. Bioactives which are able to stimulate regenerative functions on the cellular level are of high cosmetic importance.

Aging is likely to be the result of intrinsic and environmental factors that simultaneously influence cell properties and functions. A disturbance in the equilibrium between cells and the extracellular matrix is also related to an insufficient cell regulation. Cytokines are the key signal or regulatory molecules in our body. Cytokines transfer stimulatory or inhibitory signals to the cells in order to render cell responds resulting in restoration of a physiological balanced skin.

MPC-Milk Peptide Complex carries the network of milk endogenous cytokines in active form. Due to the specific processing and the resulting composition the cytokines remain stable. Studies on cultured skin cells have shown the strong stimulatory activity of MPC. The energy level of cells is increased which is important for all kinds of cell functions.

The migration test is used for the biological standardization of each MPC batch and to prove the presence of cytokines as the active principle of MPC. This test is simulating the wound healing process, to the progress of which cytokines are essential.

ACTIVES INTERNATIONAL, L.L.C.

MPC™ – the multifunctional Skin Regenerator

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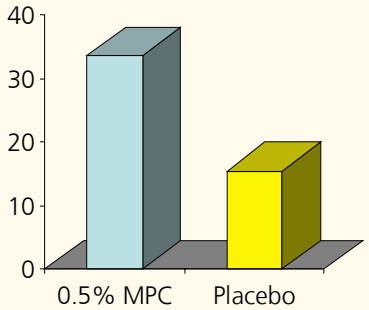
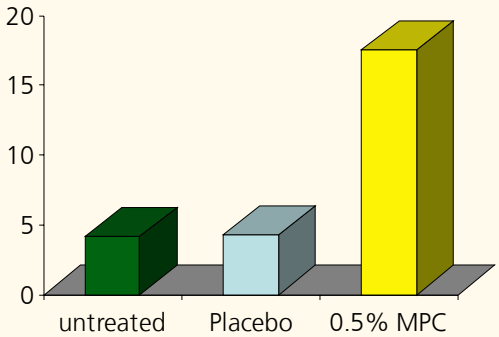
Decrease of Wrinkle Depth

Decrease of wrinkle depth (%) after 14 days on 20 volunteers.



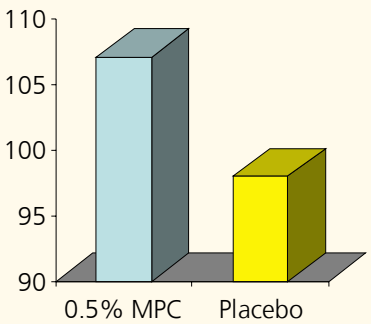
MPC induces Skin Smoothing

Increase in smoothness (%) after 14 days on 20 volunteers. Acting on a molecular level, MPC stimulates fibroblasts and therefore enables a strengthening of the dermal matrix. While treatment with MPC caused an average smoothing of the skin of 17%, use of the placebo slightly changed skin roughness.



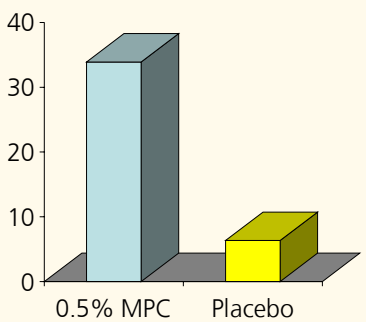
Increase of Skin Thickness

Increase in skin thickness (%) after 19 days on 12 volunteers.



Increase of Skin Firmness and Elasticity

Improvement of skin firmness and elasticity (%) after 10 days on 20 volunteers.



Results

- Wrinkle Reduction
- Increase of Firmness and Elasticity
- Increase of Skin Thickness
- Induction of ECM Biosynthesis

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