Acetyl Hexapeptide-37

Mode of action

Acetyl hexapeptide-37 improves skin moisturisation via an enhanced aquaporin 3 (AQP3) expression. As this membrane protein is involved in water transport through the different tissue layers, an increased concentration of it in the skin improves the water flux from the basal layer of the epidermis to the stratum corneum. Moreover, acetyl hexapeptide-37 improves the barrier function and increases collagen I synthesis and keratinocyte proliferation.

In vitro studies

Evidence for the efficacy of this novel active ingredient is provided by various in vitro studies. In Fig. 1 the increase in AQP3 mRNA in human keratinocytes is illustrated.

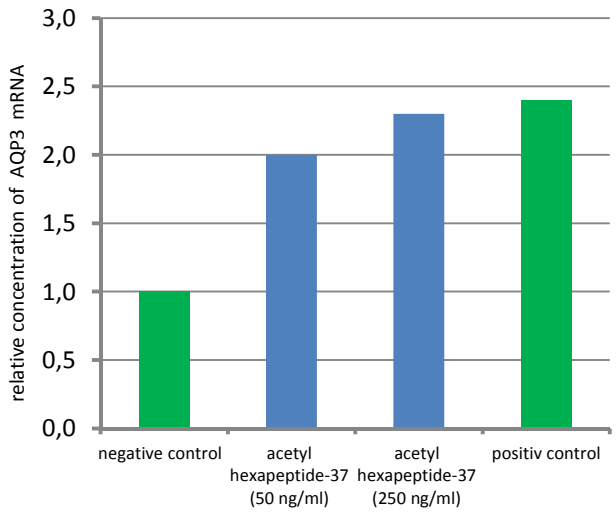

Fig. 1. Increase in aquaporin (AQP3) mRNA in human keratinocytes after treatment with acetyl hexapeptide-37 in indicated concentrations (50 ng/ml and 250 ng/ml) [Study: Lipotec S.A., Gava, Spain]

Because of its comparatively low molecular mass acetyl hexapeptide-37 can penetrate into deeper skin layers in order to reach its receptor at the target cell. Furthermore, our formulations contain special penetration enhancers improving the penetration of acetyl hexapeptide-37 in deeper skin layers. Consequently the efficacy of this active ingredient is augmented.

In vivo studies

Evidence for the efficacy of this selective pore forming protein has already been provided by various in vivo studies. A panel of 20 femal volunteers, for instance, aged from 30 to 50 applied a cream containing acetyl hexapeptide-37 for 56 days twice a day resulting in a by 131% improved skin hydration. Results of this study are illustrated in Fig. 2.

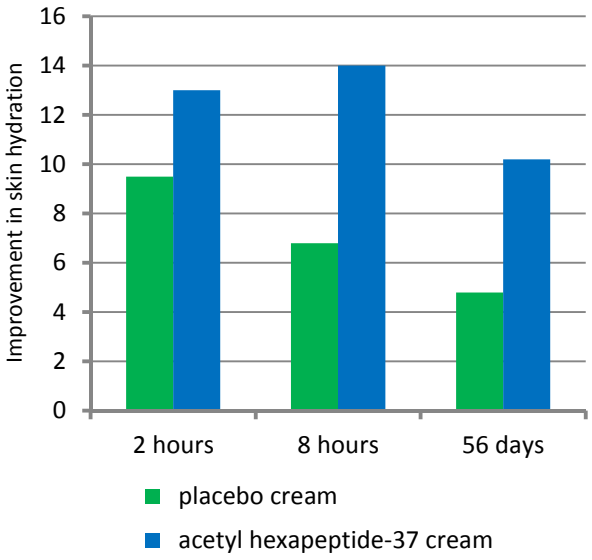

Fig. 2. Increase in skin moisture after treatment with an acetyl-hexapeptide-37 cream containing 10 µg/ml of active ingredient [Study: Lipotec S.A., Gava, Spain]