SYNERGIE SKIN
CLEAN SCIENCE

CLINICAL DATA – HYDROLYSED WHEAT PROTEIN (HWP

Functional benefits

- Anti-irritant
- Barrier protective
- Reduces erythema
- Reduces TEWL
- Film-former for penetration enhancement

Skin extensibility and recovery studies

The ability of Hydrolysed wheat protein (1% active) is to act as a skin moisturiser when applied from an oil-in-water emulsion was examined using the Dermal Torque Meter (DTM) which provides a measure of skin extensibility (Ue) and skin recovery (Ur). Skin extensibility is an indication of the ease of elastic deformation of the skin when a torque is applied and has been showed to be proportional to moisture content. The immediate recovery gives a measure of the ability of skin to return to its original state and has been shown to decrease with age. The ratio of Ur/Ue provides a measure of skin elasticity (an age-related parameter) and Hydrolysed wheat protein was shown to increase skin elasticity.

The study was performed on the forearm skin of human volunteers aged above 35, over a five-day period. Differences in % immediate extensibility and % immediate recovery between the rest and control arms for defined test sites were averaged over time to produce a mean percentage change for both variables. The results depicted in figure 1 show that the inclusion of 1% HWP significantly increases both skin extensibility and recovery, indicating a significant increase in skin moisturisation.

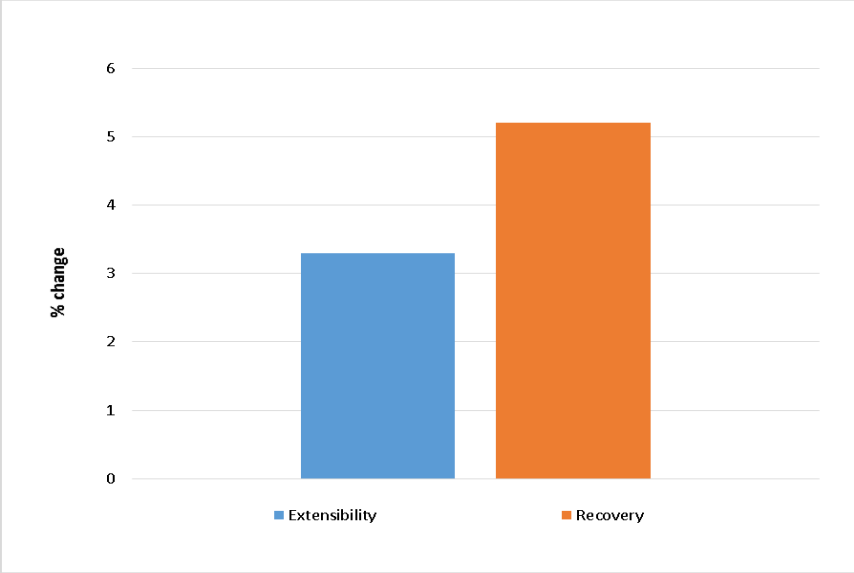

Figure 1: effect of Hydrolysed wheat protein on the average % increase in skin extensibility and recovery.

In addition, a further DTM study was conducted to evaluate HWP as a skin moisturiser when applied from a synthetic liquid detergent base. The results showed that the inclusion of 0.25% active HWP produces an increase of more than 10% ($p<0.005$) in the immediate extensibility of the stratum corneum compared with the control base. Detergents are known as irritants to the skin and can increase the trans-epidermal water loss due to the action of free surfactant monomers. HWP is able to 'mop up' these free monomers and thus reduce the irritation of the surfactant. Therefore, HWP acts as an effective skin moisturising agent even when applied from a rinse-off detergent and demonstrates significant anti-irritant properties.