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**SOCIETY OF COSMETIC CHEMISTS
2008 ANNUAL SCIENTIFIC MEETING
ABSTRACT TEMPLATE – PODIUM PRESENTATIONS**

Please complete a statement or paragraph for each of the following points. Please be very specific and use only generic names as well as INCI Nomenclature for all ingredients.

Presenter's Name: Dr. Karl LINTNER

Abstract Title: **Glycokines: sugar molecules with specific messenger activity improve tissular cohesion *in vitro*, and as measured with a novel, non-invasive, non-touch "elasticity" technology**

A. OBJECTIVE: To study and understand the mechanisms of action of small sugar molecules in eliciting biological responses in skin cells and correlate their activity with *in vivo* results obtained with a novel, non-touch skin elasticity measurement technique

B. METHODOLOGY: Cell culture studies with normal human keratinocytes, fibroblasts and full thickness human skin biopsies; DNA chip analysis of whole human genome in response to stimulation; ELISA techniques to detect proteins; histology to observe morphological changes; clinical studies on human volunteers to observe cutaneous tissue cohesion with an "aerofermometer".

C. RESULTS: The tested sugar molecules (oligosaccharides) stimulate elastin/tropoelastin (300%) and collagen I synthesis in fibroblasts, laminin (150%) and hyaluronic acid (120%) synthesis in keratinocytes, the latter result being of particular interest, as HA synthesis in the epidermis is less often described, but important for good skin condition. Explants, artificially aged with glucocorticoid, are visibly less damaged when incubated with the saccharides. Laminin at the EDJ and HA-receptor CD44 are significantly stronger expressed. DNA chip analysis confirms the stimulation of tissue repair related genetic activity. The novel skin elasticity measurement technique allows the detection of tissular cohesion parameters in non-invasive, non-touch manner. The clinical studies show significant improvement in age related skin elasticity, as well as cutaneous barrier, moisturisation and skin profile.

D. CONCLUSION: in addition to classical "hormones" (steroids, peptides, bio-amines), it appears that small sugar molecules are also able to elicit specific biological responses from skin cells, at very low (ppm) concentrations. They thus constitute an additional tool in striving to repair damaged skin tissue. The complete set of data on cells *in vitro*, on skin *ex vivo* and on human panellists confirms the coherence of this approach. Furthermore, a new non-touch technique to measure skin elasticity parameters allows us to go beyond the cutometer® in analysing tissue cohesion non-invasively.