4th Meeting of the International Society of Skin Pharmacology in La Grande-Motte, France

The next meeting of the International Society of Skin Pharmacology (ISP), which is a satellite symposium of the conference on Perspectives in Percutaneous Penetration, will be held on Saturday, March 29, 2008, in La Grande-Motte, France. The main topics of the meeting are the interaction of nanoparticles and anti-oxidant substances with the skin barrier. Additional information is available on the ISP website. We are looking forward to welcoming you to this meeting.

This Issue at a Glance

The present issue is dedicated to the penetration and action of topically applied substances in vivo as well as in skin models.

Kessner et al. (Skin Pharmacol Physiol 2008;21:58–74) analyzed various studies performed on isolated animal or human ceramide-based stratum corneum model systems. Synthetic lipids with a well-defined architecture allow good extrapolation to the in vivo situation. This review is the continuation of part 1 that focused on a detailed description of the thermotropic and/or lyotropic phase behavior of single ceramide types obtained by various experimental techniques. Part 2 reviews stratum corneum lipid model systems, namely binary, ternary and multicomponent systems, published over the last decade.

Proksch (Skin Pharmacol Physiol 2008;21:75–80) investigated the role of emollients in the management of diseases with chronic dry skin. In atopic dermatitis and psoriasis, emollients help to improve skin condition and to reduce pruritus in combination with more potent pharmacological agents. It is important to choose an emollient that not only soothes and rehydrates the skin but also offers numerous other dermatological supporting roles, especially induction of proper epidermal differentiation. This review explains the role of emollients within the management of diseases with dry skin as a major symptom and the components of an ideal emollient.

Henning et al. (Skin Pharmacol Physiol 2008;21:81–88) analyzed the influence of human skin specimens, consisting of different skin layers and resulting from different skin preparation techniques, on the in vitro permeation of a model drug, i.e., flufenamic acid. Flufenamic acid permeation across human trypsin-isolated stratum corneum, heat-separated epidermis and dermis, dermatomized skin, and full-thickness skin from either a hydrophilic or lipophilic donor was investigated in Franz-type diffusion cells. They report a good correlation between calculated and experimental resistances, which underlines that calculation of the total diffusion resistance of composed skin preparations from resistances of individual skin layers is legitimate and useful.

Grégoire et al. (Skin Pharmacol Physiol 2008;21:89–97) carried out studies with the reconstructed skin EPISKIN to improve the experimental setup for skin absorption screening. Percutaneous penetration studies are usually performed in human skin samples set up in a Franz cell device. The ability to perform these studies may depend on the availability of skin samples. Reconstructed skin models are an interesting alternative to overcome such limitations, but they are less easily mounted in diffusion cell devices. Eight chemicals having widely different chemical structures and penetration potentials were studied. Six test chemicals showed a similar penetration level in both devices. The results demonstrated that percutaneous studies with EPISKIN samples could be performed using the insert setup. The EPISKIN model has been greatly improved in recent years and it is now possible to develop screening tests for the evaluation of skin penetration with a higher reliability.

Lukowski et al. (Skin Pharmacol Physiol 2008;21:98–105) investigated the prevention of dermal colonization of methicillin-resistant *Staphylococcus aureus* strains by the application of micro- and nanosystems. They assume that Bio33-Maresome has a multifactorial activity corresponding to the process of adherence and colonization of *S. aureus* on the skin.

Houben et al. (Skin Pharmacol Physiol 2008;21:111–118) demonstrated that the epidermal ceramidase activity regulates the epidermal desquamation via the stratum corneum acidification. The acidic pH of the outer surface of mammalian skin plays several important roles in epidermal barrier function. The two endogenous pathways that are currently known to elicit this acidic pH are the generation of free fatty acids from phospholipids and the exchange of protons for sodium ions by non-energy-dependent sodium-proton exchangers. Taking into consideration the results of their study, they propose a third endogenous pathway, i.e., epidermal ceramidase activity, generating free fatty acids from ceramides. By topical application of oleoylethanolamine, a known ceramidase inhibitor, they found a significant increase in the stratum corneum pH and a corresponding decrease in epidermal free fatty acid content. Moreover, they could show that the resulting change in the apparent skin pH also induces a delay in early barrier recovery and an increased epidermal desquamation, corresponding to earlier observations made for the already known endogenous mechanisms.

Reuter et al. (Skin Pharmacol Physiol 2008;21:106–110) investigated the anti-inflammatory potential of *Aloe vera* gel in the UV erythema test. Forty volunteers were included in the randomized, double-blind, placebo-controlled, phase III monocenter study. *A. vera* gel (97.5%) significantly reduced UV-induced erythema after 48 h, being superior to 1% hydrocortisone in placebo gel. In contrast, 1% hydrocortisone in cream was more efficient than *A. vera* gel. The *A. vera* gel tested in the study might be useful in the topical treatment of inflammatory skin conditions such as UV-induced erythema.

The next issue of our journal *Skin Pharmacology and Physiology* will contain the best presentations of the 3rd meeting of the ISP in August 2007 in Washington D.C.

Jürgen Lademann, Editor Joachim Fluhr, President of the ISP