A reliability assessment of standardized human surrogate models of histaminergic and non-histaminergic itch using histamine and cowhage spicules

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Cathelicidin LL-37 may contribute to the induction of Sema3A expression in NHEKs. Thus, in addition to antimicrobial activity, cathelicidin LL-37 may contribute to the induction of Sema3A expression in NHEKs via certain Gi-coupled receptors and the ERK1/2 signaling pathway.

**PP15**

OVEREXPRESSION OF HISTIDINE DECARBOXYLASE IN THE EPIDERMIS OF PRIMATES WITH CHRONIC ITCH

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Recently, an increase in epidermal histidine decarboxylase (HDC), a key enzyme for histamine synthesis, has been shown to be involved in acute and chronic itch-related behaviors induced by topical application of anionic surfactants in mice. Moreover, HDC was up-regulated in the epidermis of atopic dermatitis patients. These findings suggest the possibility that increased HDC in the epidermis plays a role in skin conditions with chronic itch. The aim of this study was to investigate whether the expression of epidermal HDC is increased in primates with idiopathic chronic itch. The skin biopsies were collected from 8 adult female cynomolgus macaques (Macaca fascicularis) with varying degrees of itch. The expression was limited to the upper epidermal layers. The up-regulation of HDC in the upper epidermis may be involved in skin conditions with chronic itch.

**CLINICAL RESEARCH TRACK – PRURIGO AND OTHER PRURITIC SKIN**

**PP17**

CORRELATION OF PLASMA GRANZYME B LEVELS WITH PRURITUS OF ATOPIC DERMATITIS

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Clinically, atopic dermatitis (AD) associated pruritus is resistant to conventional treatment, including histamine H1 receptor antagonists. Granzymes (Gzms), a family of serine proteases expressed by cytotoxic T lymphocytes and natural killer cells, have been shown to modulate inflammation. Their relationship with pruritus of AD still remains unclear. In the present study, we assessed relationships among plasma Gzm levels and severity of pruritus or dermatitis in AD patients. In enzyme-linked immunosorbent assays, plasma GzmB levels were significantly increased in AD patients. Correlation analyses among other clinical markers of AD showed that plasma GzmB levels positively correlated with plasma gastrin releasing peptide (GRP) level, serum thymus and activation-regulated chemokine (TARC) levels or scoring atopic dermatitis (SCORAD). Visual analogue scale (VAS) score also tended to correlate with plasma GzmB level. On the other hand, plasma Gzma levels showed no correlation with these clinical markers. These data suggest that plasma GzmB levels may be involved in the severity levels of both pruritus and dermatitis in AD patients.