3D in vitro model for atopic dermatitis

Commonly used acronym: *RHE-AD*

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Contact person

Christel Boudry

Organisation

Name of the organisation straticell

Department Straticell

Country Belgium

Geographical Area Walloon

SCOPE OF THE METHOD

The Method relates to	Human health
The Method is situated in	Basic Research
Type of method	In vitro - Ex vivo
Specify the type of cells/tissues/organs	Reconstructed human Epidermis

DESCRIPTION

Method keywords

LXR

preclinical

skin model

therapeutic

JAK/STAT

in vitro

Scientific area keywords

dermatitis

Skin equivalents

drug screening

Atopic dermatitis

Skin barrier

cytokines

Method description

Recent advances in the development of human-based *in vitro* models offer new tools for drug screening and mechanistic investigations of new therapeutic agents. However, there is a lack of evidence that disease models respond favourably to potential drug candidates. Atopic dermatitis (AD) is a very common disease associated with an altered skin barrier and chronic inflammation. Here, we demonstrate that the AD-like features of a reconstructed human epidermis (RHE) model treated with Th2 cytokines are reversed in the presence of molecules known to have a beneficial effect on damaged skin as a result of modulating various signalling cascades including the Liver X Receptors and JAK/STAT pathways. This work shows that standardized and reproducible RHE are relevant models for therapeutic research assessing new drug candidates aiming to restore epidermal integrity in an inflammatory environment.

Method status

Internally validated

REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

References

DOI: 10.1111/exd.13810

Associated documents

Hubaux et al. 2018_Exp Derma.pdf

Links

company website

company linkedin