Labskin to assess performance of cosmetic ingredients and formulations making anti-ageing claims

LabSkin
SKIN SCIENCE

OBJECTIVE

Repeated application of Retin-A and a consumer emollient to LabSkin full thickness living skin equivalent to determine the effect on procollagen I production in dermal fibroblasts by immunohistochemistry (IHC).

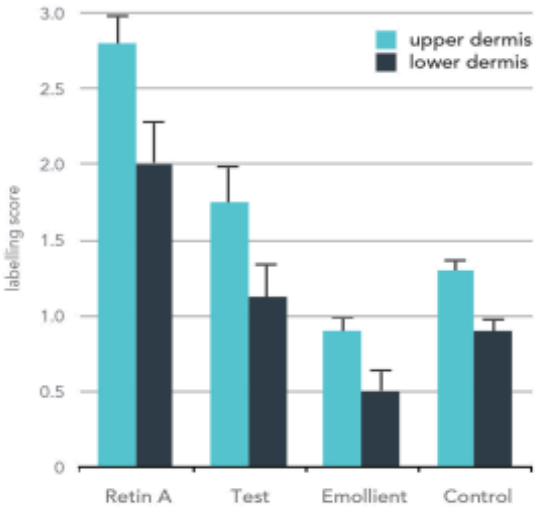
METHOD

- Products were applied to the surface of LabSkin every day for 2 weeks.
- At each application, 20 µL of product was pipetted onto the surface and spread using a sterile glass rod.
- After treatment, 3 x 8 mm punch biopsies were removed from each LabSkin unit.
- Samples were formalin fixed and paraffin embedded for histology.
- Sections of 5 µm were prepared and immuno-histochemistry was carried out to assess the expression of Procollagen-1 in dermal fibroblasts.

RESULTS

Procollagen I immunolabelling associated with fibroblasts within the dermis of LabSkin was assessed by image scoring.

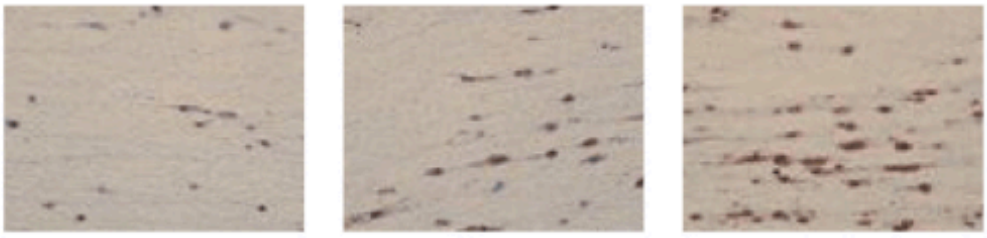
Figure 1 - Affect of products on procollagen production



SUMMARY

Assessment of Procollagen production by immuno-histochemistry (IHC) in dermal fibroblasts in LabSkin full thickness living skin equivalent can be used to support anti-ageing claims for cosmetics ingredients and formulations benchmarked against products of recognised activity i.e. Retin-A

DERMAL FIBROBLAST LABELLING SCORING



grade 1 grade 2 grade 3

Labskin can be used within the same experimental design to simultaneously evaluate multiple factors including cytokine responses (i.e. IL-1a, PGE2, TNFa, IL-10 etc.), histological changes, wound repair and photo-reactivity in addition to skin commensal and pathogenic microorganisms.

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