

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

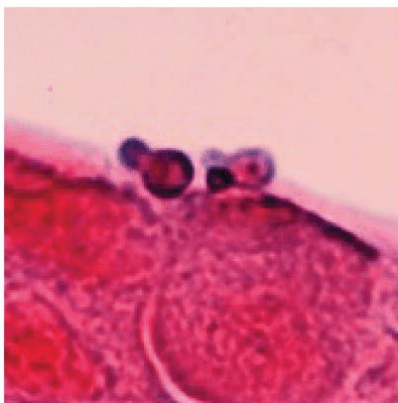
OBJECTIVE

Application of ingredients for the treatment of dandruff to Labskin full thickness living skin equivalent to determine the immediate and residual effects on the viability of *Malassezia globosa* and *Malassezia restricta*.

METHODS

- To assess immediate anti-fungal activity, products were applied to the surface of Labskin pre-colonised for 24h with *Malassezia globosa* and *Malassezia restricta* in GS-24. After 2 minutes exposure, the skin surface was washed using a modified scrub wash with neutraliser and viable *Malassezia* enumerated on RM-SMA agar medium.
- To assess residual anti-fungal activity, products were applied to the surface of Labskin for 2 minutes and then removed by washing. The skin surface was then colonised with *Malassezia globosa* and *Malassezia restricta* in GS-24 and incubated. After 3h, the skin surface was washed using a modified scrub wash and viable *Malassezia* enumerated.

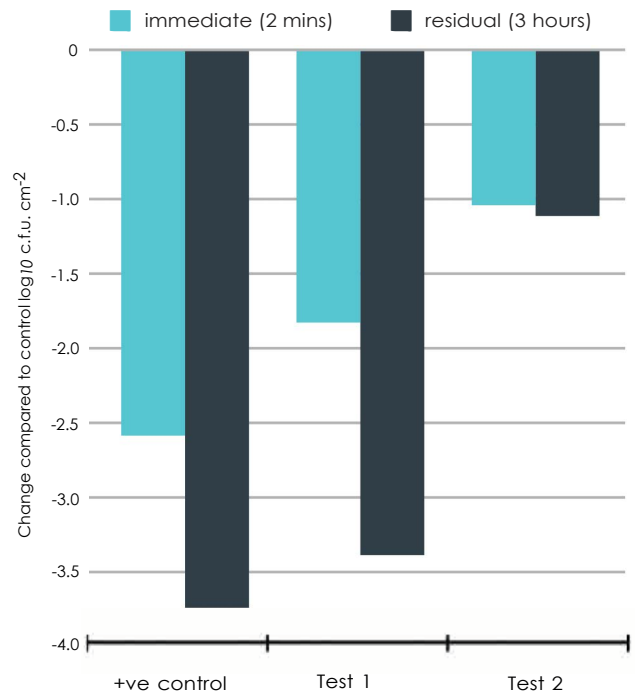
Figure 1 - Budding *Malassezia* on LabSkin



Labskin can be used within the same experimental design to evaluate several endpoints including cytokine responses (i.e. IL-1 α , IL-6, IL-8, PGE2, TNF α , IL-10 etc.), histological changes, wound repair and photo-reactivity in addition to skin commensal and pathogenic microorganisms.

RESULTS

Malassezia were recovered from the surface of LabSkin using our modified scrub wash technique and viable cells enumerated on our specially formulated RM-SMA growth medium.



SUMMARY

Compared to classic *in vitro* antimicrobial testing protocols (MIC, MBC etc.) where materials are presented in solution, Labskin provides a living, skin-equivalent testing surface which supports the growth of *Malassezia* in a phenotypically-relevant manner.

The Labskin model can be used to evaluate ingredients and formulations benchmarked against products of recognised clinical activity, and its enhanced predictivity can help to de-risk the move from *in vitro* screening to clinical assessment.

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