

ProRenew Complex CLR™

Probiotic approach to skin renewal and resurfacing



ProRenew Complex CLR™

in vivo	ex vivo	in vitro
<input checked="" type="checkbox"/> skin	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Based on probiotic technology, ProRenew Complex CLR™ acts on essential features in the aging process of the skin, its ability to both successfully adapt to its constantly changing environment and effectively renew itself.

ProRenew Complex CLR™ positively influences the speed as well as the quality of epidermal growth. The production of essential proteins and enzymes in skin quality is clearly increased, barrier function, desquamation and cell cohesion are improved, and skin renewal is accelerated, promoting skin health.

Dosage: 3.0%
pH range: 4.0–7.0
INCI Name:
 Lactococcus Ferment Lysate

Skin benefits

- A probiotic approach to skin aging
- Induces production of key ingredients of skin quality and density
- Improves keratinocyte cohesion and growth
- Increases the production of antimicrobial peptides
- Accelerates and improves skin renewal
- Promotes healthy desquamation
- In conformity with the **ECOCERT** Standard for Natural and Organic Cosmetics
- **COSMOS** approved

Applications

- Skin regeneration
- Barrier maintenance and repair
- Skin protection

Marketing opportunities*

- Relaunches skin's self regeneration potential
- Reinforces the skin
- Restores skin's natural health and beauty
- For the construction and preservation of the skin
- Fortifies skin's natural barrier
- With the regenerative power of probiotic bacteria

* This list is for illustrative purposes only.
 Make sure to comply with relevant legislation.

ProRenew Complex CLR™ – Selected efficacy studies

Influence on desquamation

Eighteen volunteers applied a formulation containing 3% of ProRenew Complex CLR™ and corresponding placebo on designated areas on the outer forearms, twice daily for 42 days. On day 43 of the study, the gradient in cell cohesion in the stratum corneum was determined by tape stripping and quantifying protein mass on the strips obtained. Treatment with ProRenew Complex CLR™ clearly leads to a more pronounced gradient in protein mass, hence cell cohesion, as compared to the skin treated with placebo, (Fig. 1). ProRenew Complex CLR™ promotes healthy desquamation.

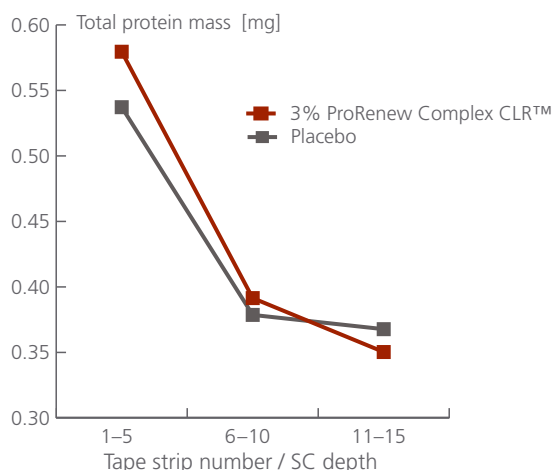


Fig. 1: Influence on protein mass on tape strips vs. tape strip number, i.e. stratum corneum depth

Acceleration of skin renewal

Test products were applied on designated skin areas on the inner forearm of 5 female volunteers (47–63 years old) for 2 weeks, twice daily. After that, tape stripping was performed to remove stratum corneum and induce skin damage. By measuring the thickness of the stratum corneum 1 hour, 2 and 4 days after tape stripping it was shown that the skin treated with ProRenew Complex CLR™ had a clearly accelerated rate of skin renewal (Fig. 3).

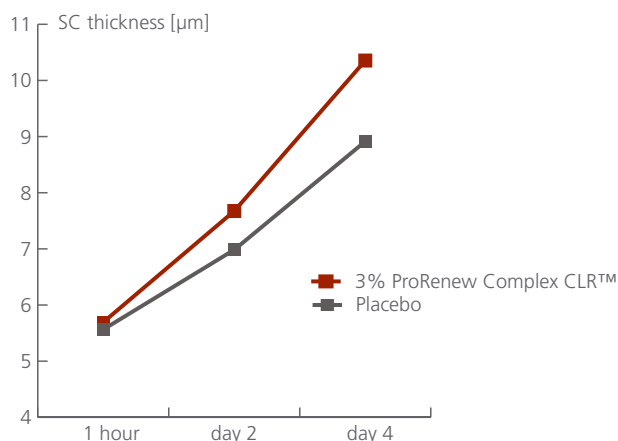


Fig. 3: Acceleration of skin renewal

Caspase-14

Caspase-14 is essential for the maintenance of normal and healthy keratinocyte differentiation, cornification, the architecture of the SC, and the formation of the cornified envelope.

Treatment of the growing epidermal skin model with ProRenew Complex CLR™ (growth followed for 14 days, 3% ProRenew Complex CLR™ applied in medium) led to an activation in the production of caspase-14. Histological pictures were made (magnification 400x, Fig. 2).

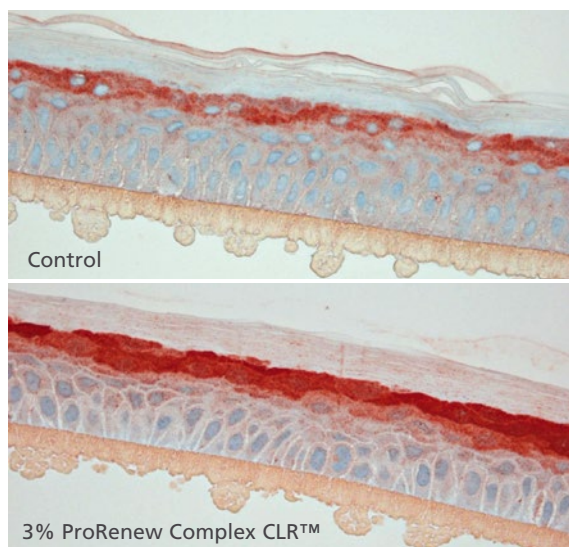


Fig. 2: Expression of caspase-14 with ProRenew Complex CLR™ is clearly higher than in the control

Stimulation of barrier recovery

The skin treated with ProRenew Complex CLR™ clearly showed an increased rate in the recovery of a healthy barrier function of the skin after tape stripping (Fig. 4).

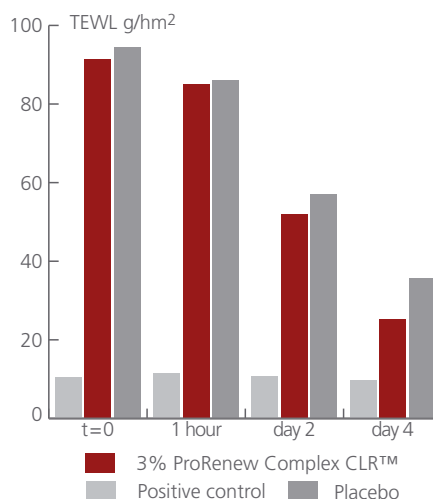


Fig. 4: Stimulation of barrier recovery

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