

delisens™

peptide

Sensitive skin without signs



Down-regulates PAR-2 activity



Description

Hexapeptide that diminishes proteinase-activated receptor 2 (PAR-2)-induced release of pro-inflammatory mediators, attenuating neurogenic inflammation and relieving itch in sensitive skin. **delisens™ peptide** helps also to restore the damaged barrier function and provides a photoprotective effect, preventing further inflammation.

Appearance

Transparent solution containing 0.025% Acetyl Hexapeptide-49.

INCI

Butylene Glycol, Water (Aqua), Citric Acid, Acetyl Hexapeptide-49.

Properties

delisens™ peptide ameliorates the discomfort of nagging pain and itch occurring in sensitive skin, besides restoring the damaged barrier integrity. In very dry sensitive skin, it increases hydration as well as improves scaling, smoothness and softness.

Applications

delisens™ peptide can be incorporated into daily care formulations and any specific treatments for sensitive skin where a soothing and repairing effect is needed.

Attenuates neurogenic inflammation

Science

Sensitive skin is a disturbing condition that can be induced by environmental factors (e.g. pollution, UV radiation, dryness), lifestyle factors (e.g. cosmetics, soaps), psychological factors or hormonal factors. Sensitive skin may worsen and give rise to acute or chronic inflammation disorders, where the threshold for pruritic stimuli causing itch sensation is lowered. PAR-2 activation (endogenously by trypsin-like serine proteases) amplifies the inflammation via the up-regulation of inflammatory mediators (such as interleukin (IL)-6 and IL-8) and induces transient receptor potential vanilloid-1 (TRPV1) sensitisation, leading to the release of inflammatory peptides calcitonin gene-related peptide (CGRP) and substance P (SP) also involved in neurogenic inflammation. Furthermore, activated PAR-2 delays barrier function recovery in damaged skin, due to, for example, scratching after contact with some chemicals, like allergens.

delisens™ peptide down-regulates PAR-2 activity and as a result CGRP, IL-6 and IL-8 release from skin cells, mediating neurogenic inflammation and therefore decreasing nagging pain sensation, discomfort and itching present in sensitive skin. It also helps to restore damaged tissue integrity, helping to the re-epithelisation and repair of damaged skin.

Dosage 2-5%

Solubility

Soluble in glycols.



In vitro efficacy

1. INHIBITION OF PAR-2 MEDIATED IL-6 AND IL-8 RELEASE

Primary human epidermal keratinocytes were incubated with vehicle or different concentrations of **delisens™ peptide**, in presence of 50 µM PAR-2 agonist. Cytokines release was determined by an ELISA test.

2. BARRIER FUNCTION RECOVERY

Barrier function recovery was evaluated in human keratinocytes treated with **delisens™ peptide** by a cell proliferation assay through the enzymatic conversion of the non-fluorescent calcein, and a cicatrization assay inducing a cell-free area by scraping the monolayer with a pipette tip.

delisens™ peptide reduces IL-6 and IL-8 release upon activation of PAR-2

69.6% and 71.4% respectively at 0.5 mg/mL, restoring physiological levels.

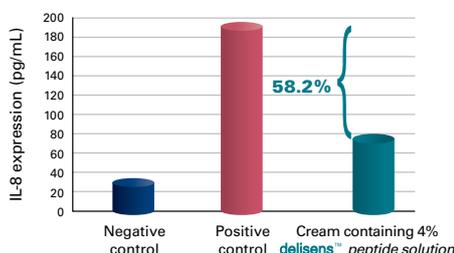
delisens™ peptide helps to recover damaged barrier function

It stimulates human keratinocyte cell growth and cicatrization after cell injury.

Skin model efficacy

EFFICACY AGAINST COSMETIC ALLERGENS

A cream containing 4% **delisens™ peptide solution** and a placebo cream, both with hexyl cinnamal and farnesol, were applied on a reconstructed human epidermis for 24 hours. IL-8 expression was determined by an ELISA test.



delisens™ peptide counteracts the release of cytokines induced by cosmetic allergens

In vivo efficacy

1. EFFECT ON STINGING DECREASE

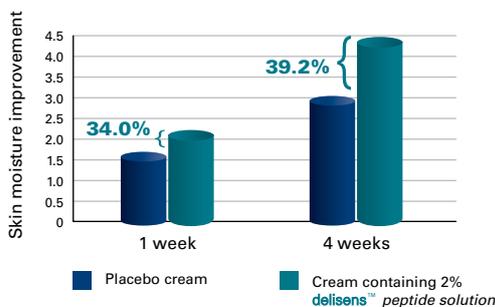
A panel of 25 volunteers (aged from 24 to 67) were pre-selected for sensitivity to lactic acid stinging. A 10% lactic acid solution was applied on the naso-labial fold. Then, they applied a cream containing 2% **delisens™ peptide solution** and after 1 hour, the effect was evaluated. After applying the cream twice a day for 7 days, at the end of the treatment, the stinging efficacy was assessed again.

2. IMPROVEMENT OF SENSITIVE SKIN

20 volunteers (aged from 18 to 55) with sensitive skin and itch sensation on their legs applied a cream containing 2% **delisens™ peptide solution** on the left leg and a placebo cream on the other, twice a day for 4 weeks.

• Instrumental evaluation

Measurements of the moisture were taken by corneometry before the first application and after 1 and 4 weeks.



• Dermatological evaluation

A trained specialist performed the evaluation of dryness, scaling, smoothness, softness and suppleness by using an analogous scale, from no intensity to maximum intensity.

delisens™ peptide improved the stinging feeling and raised the volunteers as non-stingers to 32%, after 1 week

An immediate soothing effect was also obtained only 1 hour after the first application.

Hydration increased significantly with **delisens™ peptide** by 34% after 1 week with respect to placebo

delisens™ peptide ameliorates skin dryness, scaling, smoothness, softness and suppleness in sensitive skin