



bodyfensine[®]

A reinforcement of the skin's natural defense system

A tripeptide that keeps skin healthy



Description

Tripeptide that reinforces the skin's natural defense mechanism, keeping the intricate balance that characterises the perfect and healthy skin.

Appearance

Transparent solution containing 0.05% active ingredient.

INCI

Butylene Glycol, Water (Aqua), Acetyl Diipeptide-3 Aminohexanoate.

Preservative free.

Properties

Reinforces the skin's innate immunity, stimulating the first line of defense between the skin and the environment. **bodyfensine[®]** lowers the risk of possible infections by external agents, such as in acne-prone skin.

Applications

bodyfensine[®] can be incorporated in daily cosmetic formulations where an extra defense is desired, including oral care products.

Dosage 2-5%

Solubility

Water soluble.

Stimulates β -defensins expression

Science

Long-lasting beauty and healthy skin are substantial clues of the quality of life for most people. Especially, people with dermatological problems often feel uncomfortable in their own skin and are concerned not only by the wrinkles formation but also by the apparition of redness, infections and acne lesions. Natural human skin, as well as oral tissues, is colonised by large numbers of microorganisms, most of which live harmlessly as commensals without causing clinical disease although the skin is constantly challenged by pathogens. However, infection of normal healthy skin rarely occurs, due to human skin produces β -defensins, small peptides with antimicrobial properties that contribute to the resistance of the skin to invasion by microorganisms, providing a rapid, first-line chemical barrier to fight against microbial growth. These peptides provide protection from widespread bacterial invasion and promote wound healing.

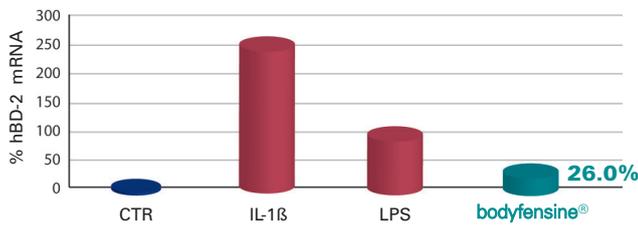
bodyfensine[®], which has been designed through a combinatorial chemistry approach, stimulates human- β -defensin -2 and -3, enhancing the skin's natural defense system, therefore maintaining the balance between commensal microbes and pathogens in the skin.



In vitro efficacy

1. EVALUATION OF HBD-2 GENE TRANSCRIPTION

The activity of **bodyfensine®** was determined at the transcriptional level, by measuring its ability to promote the expression of hBD-2 mRNA in human keratinocytes.



26% increase of hBD-2 mRNA content

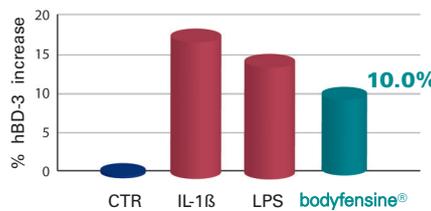
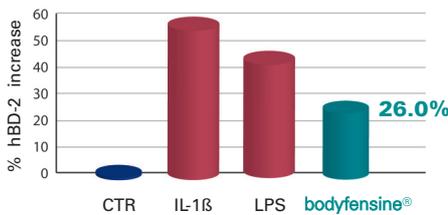
The result obtained validates the peptide activity as hBD-2 booster.

2. EFFICACY IN HBD-2 AND HBD-3 GENE TRANSDUCTION

Determination of the total amount of secreted hBD-2 and hBD-3 proteins on human keratinocytes using ELISA assay.

Human keratinocytes were incubated with 0.25mM **bodyfensine®** for 16 to 24 hours. After that, culture media was collected, concentrated and the amount of secreted proteins was measured by an ELISA assay.

In each case different molecules were used as positive controls.



bodyfensine® boosted the production of hBD-2 by 26% and hBD-3 proteins by 10%, enhancing the skin's natural defense system.

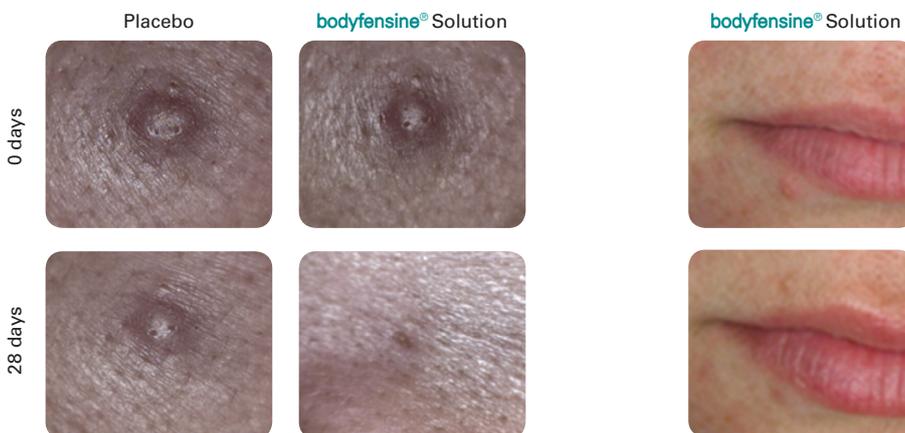
In vivo efficacy

IMPROVEMENT IN APPEARANCE OF ACNE-PRONE SKIN

bodyfensine® was tested on a group of 20 female volunteers with oily problematic acne-prone skin, aged 18 to 45. A gel containing 5% **bodyfensine®** Solution was applied on one side of the face and a placebo gel on the other side, twice a day for 28 days. Skin moisturisation was measured with the Corneometer® CM850 and presence of sebum with the Sebumeter® SM815.

bodyfensine® improves the overall appearance of skin prone to acne

The presence of sebum significantly decreased by 25% and skin moisturisation significantly increased by 38%.



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