

# BIHADAMAKU™ : Skin-Beautifying Film

## NFG® for skin care products

### What is NFG® ?

NFG® is a premixed composition containing Nissan Chemical's proprietary ingredient: palmitoyl dipeptide-18. Palmitoyl dipeptide-18 is a lipid peptide molecule combining fatty acids and amino acids to achieve a high safety profile and exceptional properties for the hair and scalp.

### Product Name

**NFG® ES-01**

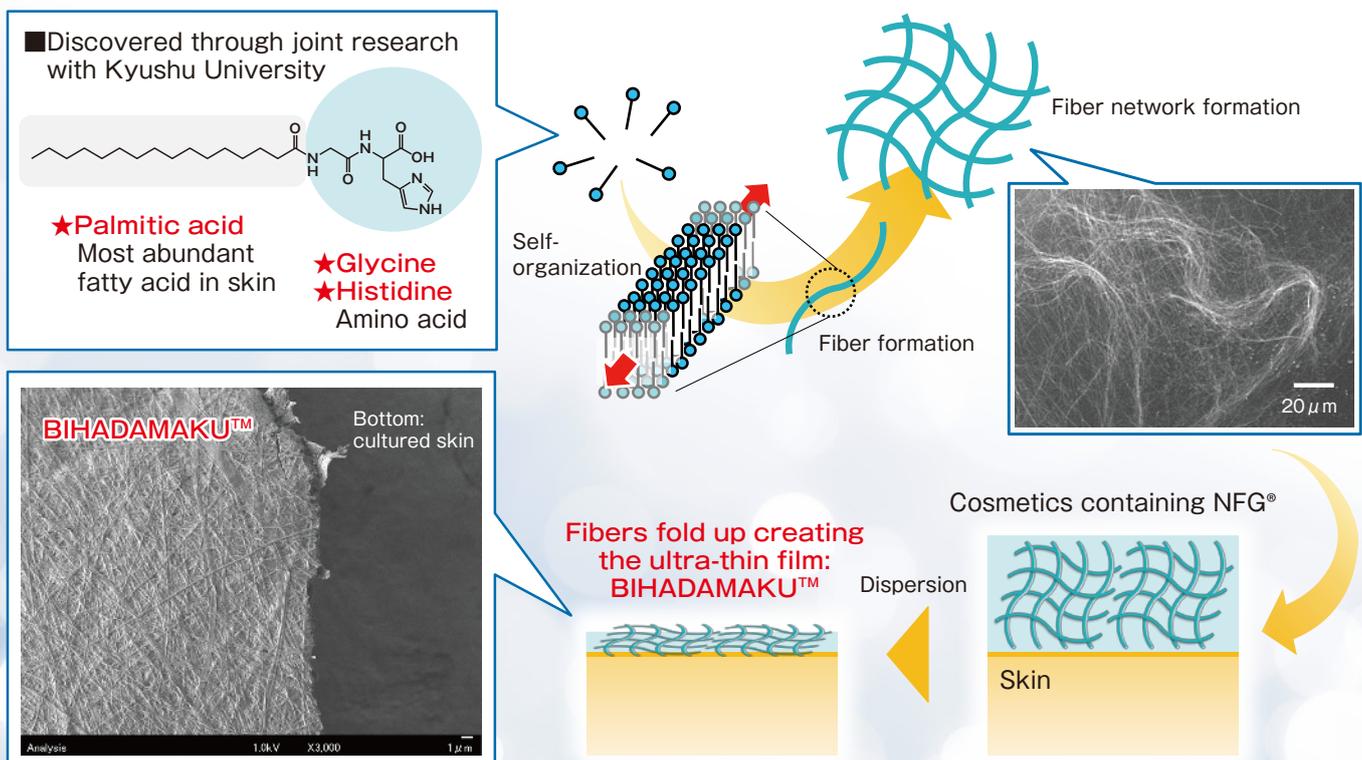
INCI	Composition (wt%)
Palmitoyl dipeptide-18	10
Stearic acid	1
1,2-Hexanediol	4
Laureth-4	8
Water	77

### Skin care functions

- Moisturizing and non-sticky feel
- Feels comfortable on the skin
- Promotes penetration of active co-ingredients
- Suppresses of adhesion of pollen and pollutants (PM2.5)

### Features of NFG®

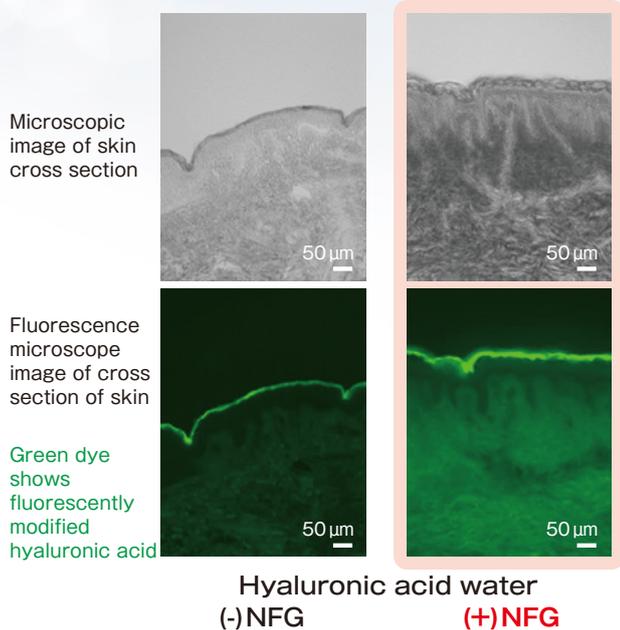
Palmitoyl dipeptide-18 has the characteristic of self-organizing in water to form ribbon-like fibers. When cosmetics containing NFG® are applied, these fibers fold up to adhere to the skin, creating an ultra-thin film, BIHADAMAKU™, meaning skin-beautifying film. Unlike conventional materials, BIHADAMAKU™ is exceptionally soft and has a special structure with nano-sized unevenness on the surface. Nano-sized unevenness suppresses stickiness while maintaining a lasting moisturizing effect.



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# Functional data of NFG<sup>®</sup> for skin care

## Increases permeation of high molecular weight active ingredients

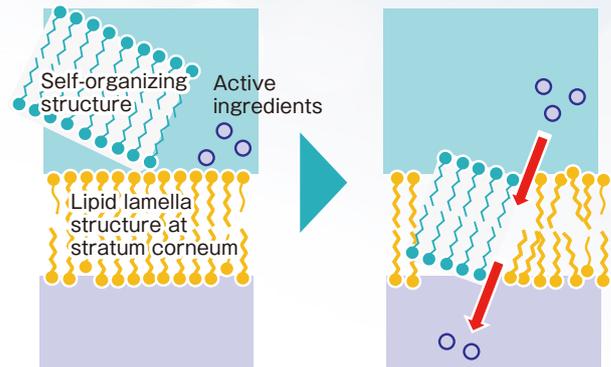


《 Evaluation procedure 》

1. Place human skin in Franz cell at 32°C and apply sample.
2. Hyaluronic acid was quantified by fluorescence intensity measurement after 24 hours.

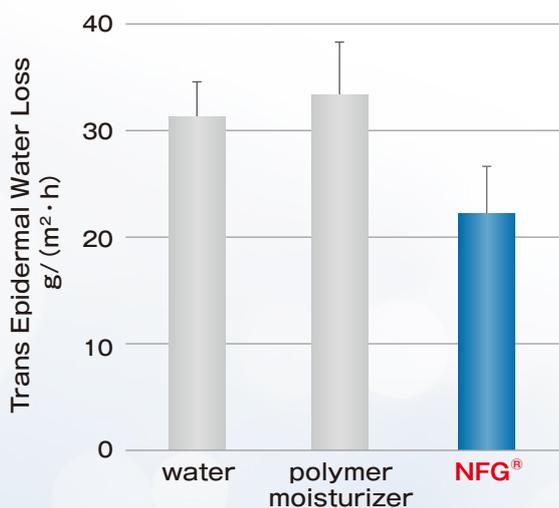
## Penetration promotion mechanism\*

1. The self-assembled structure penetrates the lipid lamellar structure of the stratum corneum.
2. Gaps are formed in the lamellar structure and act as passages for active ingredients.



\*Takayuki Imoto and Masahiro Goto, Langmuir, 2021, 37, 8971–8977

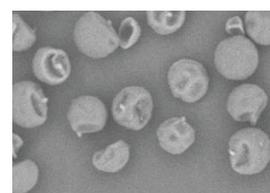
## High moisturizing effect



《 Evaluation procedure 》

1. Apply sample and remove after 1h.
2. Measure trans epidermal water loss after 6h. (N=4) (Measuring device: Tewitro TW24)

## Suppression of adhesion of pollen



Non-treated



NFG<sup>®</sup>



《 Evaluation procedure 》

1. Place human skin in Franz cell at 32°C and apply sample.
2. Hyaluronic acid was quantified by fluorescence intensity measurement after 24 hours.

The expressions described in this product description are in accordance with the Pharmaceutical Affairs Law and the Fair Competition Regulations regarding the labeling of cosmetics. It does not indicate the effects and efficacy of cosmetics and quasi-drugs within the range approved. We do not guarantee industrial property rights such as patents. A separate survey is required.



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