INNOVACTIVE INGREDIENTS

A company inspired by nature and supported by science

EN

(GFT)

The Green Ferment Tech®

Transformation of simple raw materials in a Ferment-Peptide Complex by a process that combines Natural ferment with a natural origin peptide

INNOVACTIVE WATERDEEPFERM®

Ferment-peptide Complex that deeply hydrates the skin, facilitating the production, transport and retention of water thanks to the stimulation of the synthesis of Aquaporins-3

Ceratonia Siliqua Seed Flour

TECHNOLOGY	EFFICACY STUDIES	DOSAGE	REGULATORY
BIO FERMENTATION	**In vitro test:** Aquaporins-3 stimulation **In vivo test:** Superficial and deep Hydration Protection (TEWL) Elasticity Reduction of aggressiveness of rinse-off products Clinical evaluation	0,5% and 2%	EU AU CN KR US CA JP

FLOWCHART FOR INNOVACTIVE WATERDEEPFERM® PREPARATION

- Starter culture setup
- Enrichment with **Ceratonia Siliqua seed flour**
- Fermentation
- Addition of **Oligopeptide-1**
- Biomass recovery
- Sample adjustment
- Cell lysis
- Debris removal by centrifugation
- Microfiltration
- Formulation and product preparation

INNOVACTIVE FERMENTATION STRATEGY

Saccharomyces Cerevisiae strain from fermented rice specifically selected based on its natural content of **Polysaccharides** and the three main **Fatty acids Omega 3-6-9**.

The fermentation is carried out in the laboratory, under controlled technological conditions in a specific medium with natural nutrients enriched with **CERATONIA SILIQUA SEED FLOUR** in turn rich in hydrocolloidal Polysaccharides, to create a synergy with those already presents in the Saccharomyces Cerevisiae.

The **INNOVACTIVE FERMENTATION STRATEGY** consists in creating a Ferment-Peptide Complex by adding a natural origin Peptide Oligopeptide-1, to the culture medium enriched with Ceratonia Siliqua seed flour during natural fermentation to create synergies of active ingredients and cosmetics activities.

INNOVACTIVE WATERDEEPFERM® Ferment-peptide complex derived from the natural fermentation of **Saccharomyces Cerevisiae rich in Polysaccharides and Omega 3-6-9 Fatty Acids**, which grows in a culture medium enriched with:

- **Ceratonia siliqua seed flour**, in turn rich in hydrocolloidal Polysaccharides which facilitate **water retention**.
- **Oligopeptide-1**, a signal peptide of natural origin which **stimulates the turnover of skin protein essential** for skin firmness and elasticity (Collagen and Elastin), **promoting cell regeneration and the synthesis of Aquaporins-3** (microscopic channels present in the cell membranes of the epidermis which facilitate the transport of water within the cells and between the layers of the epidermis improving the skin's hydration system from within).

Innovactive WATERDEEPFERM hydrates the skin deeply and for a long time , maintaining optimal levels of humidity , improving resistance to environmental factors and therefore the function of the skin barrier, elasticity, skin tone and reducing the appearance of wrinkles.

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KEY ACTIVE INGREDIENTS AND THEIR FUNCTIONS

Total Polysaccharides (23-28%)
Fatty Acids Omega 3-6-9

At the end of fermentation, after lysis, centrifugation, and filtration, we obtain a concentrate titrated in:

- **Total Polysaccharides**, present in high percentages thanks to the synergy between the Polysaccharides present in the Ceratonia Siliqua seed flour with which the culture medium in which the yeast grows is enriched, and the structural Polysaccharides present in the yeast cell wall which increase with cell growth.
- **Fatty Acids Omega 3-6-9** essential constituents of the skin's hydrolipidic film, which help to make it more compact and the skin barrier more resistant

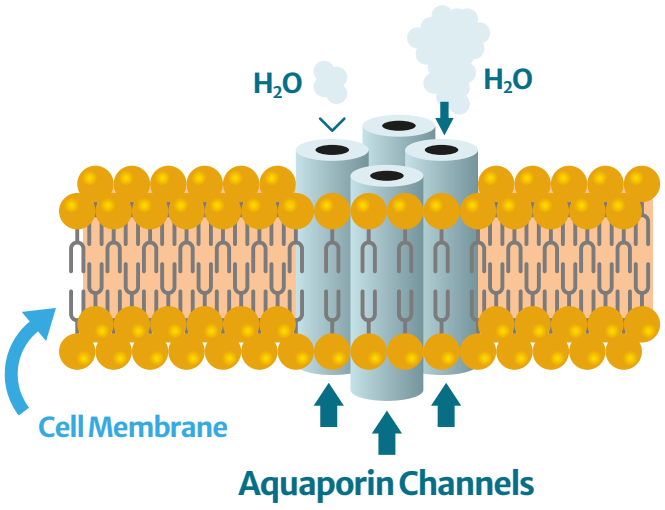
In the WATERDEEPFERM® we have:

Saccharomyces ferment lysate filtrate

It is rich in Fatty Acids and Polysaccharides, enriched by those present in the Ceratonia Siliqua seed flour present in the culture medium in which the yeast grows.

Saccharomyces **activates and regulates the transport of water between the layers of the epidermis by Aquaporins-3**, helping to fight the degradation of collagen.

The polysaccharides it contains are particularly hydrating due to their ability to bind water deep in the dermal-epidermal junction and form a protective moisturizing film on the surface that helps provide a protective barrier against dehydration, as well as to release water gradually, thus keeping the skin hydrated and PH balanced.



Oligopeptide-1

Signal peptide capable of modulating **skin protein turnover by enhancing the production of skin protein** essential like Collagen, Elastin **and Aquaporines-3**, which the skin needs to counteract and reduce the appearance of wrinkles and signs of aging, to increase tone, elasticity and skin resilience thanks an improvement in the function of skin barrier.

The increase in the protein channels of Aquaporin-3 (essential for the transport of water through the skin layers of the epidermis), leads to an increase in the transport of water, therefore improving hydration and helping the skin to remain more elastic and softer for a long time.

The combination of Oligopeptide-1 with the Saccharomyces ferment in the Ferment-Peptide Complex **Waterdeepferm®, increases the skin's ability to retain and distribute water, thus ensuring more effective and long-lasting hydration in the deeper layers**.

Aquaporins-3

Microscopic channels present in the cell membranes of the epidermis which facilitate the transport of water within the cells and between the skin layers of the epidermis, improving the skin's hydration system from within.

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TECHNICAL PRODUCT DATA

Producte Code: INNO-010 | **INCI**: Glycerin, Saccharomyces ferment lysate filtrate, Oligopeptide-1 | **Solubility**: water soluble | **pH**:5-8 | **Colour**: golden yellow
Preservative Free | **Recommended dose**: 0,5% and 2% | Shake before use

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INNOVACTIVE WATERDEEPFERM®

INNOVACTIVE WATERDEEPFERM® EFFICACY

Premise

Well-hydrated skin is more flexible, resistant, elastic, and has a healthier appearance.

The production of Aquaporins-3 (the most abundant in the skin and closely linked to hydration), plays a key role in hydration and skin barrier function, two parameters that are closely related to each other.

The amount of Aquaporins in the skin decreases with age and sun exposure, leading to dehydration (reduction in water flow) and loss of elasticity and skin tone, with the appearance of wrinkles.

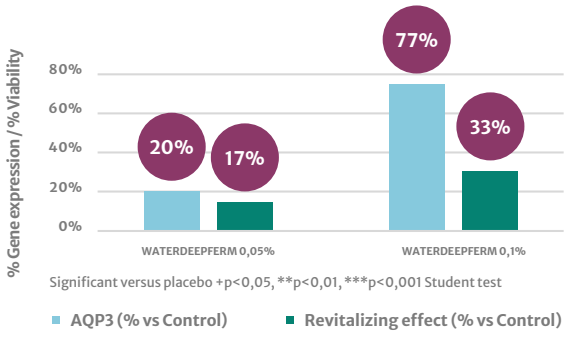
Alterations in aquaporins-3 have also been observed in the presence of an altered function of the skin barrier, as in the case of sensitive skin and Atopic Dermatitis (DA).

Efficacy:

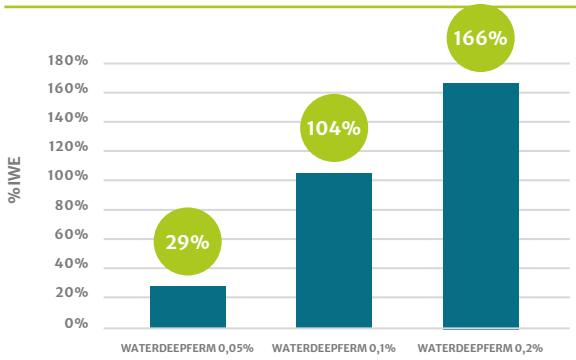
1. Stimulates the production of **AQUAPORINS-3**
2. Improves **superficial and deep skin hydration** starting from 15 minutes after application
3. Improves natural function of the skin barrier and therefore the **skin's resilience**.
4. Improves skin **Elasticity**
5. **Reduces and counteracts the appearance of wrinkles**
6. Reduces the roughness and the tightness of the skin surface, **leaving it soft and hydrated for a long time**

IN VITRO TEST
on monolayer of keratinocyte cell cultures

Increase in AQP3 synthesis and revitalizing effect after 24 h



Water Energy Index: index that combines hydrating and revitalizing action

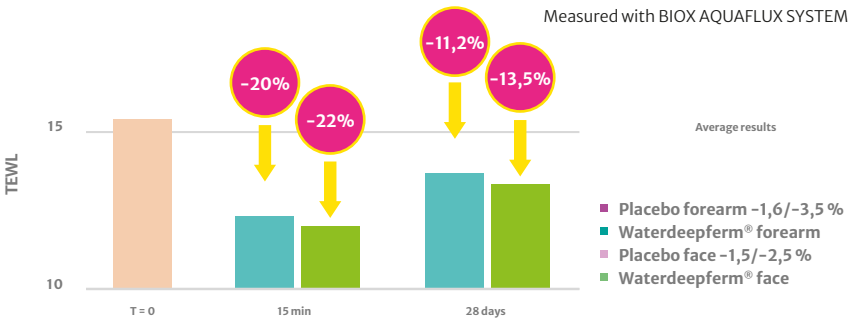


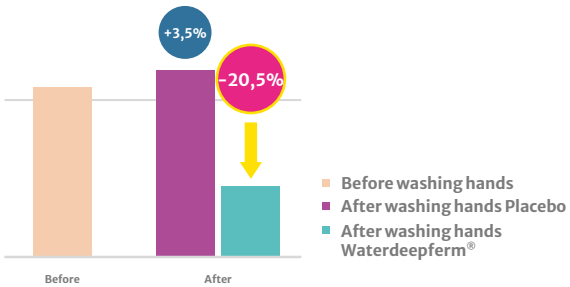
IN VIVO EFFICACY TEST

carried out using a Gel Cream containing 2% of Waterdeepferm® twice a day for 28 days

After one application of a Rinse-off product with 0,5% of Waterdeepferm

TEWL (Protective activity)





Reduction of the aggressiveness of surfactants in RINSE-OFF products

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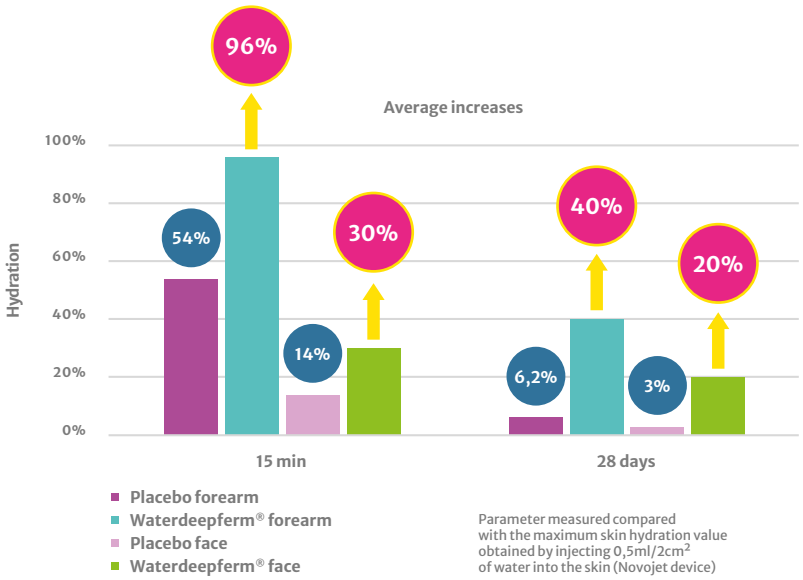
INNOVACTIVE WATERDEEPFERM®

IN VIVO EFFICACY TEST

carried out using a Gel Cream with 2% of Waterdeepferm® twice a day for 28 days

DEEP HYDRATION

Technique: Scalar Model MY-808S Corneometer // Novojet



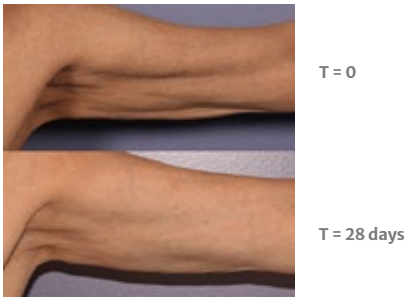
Parameter measured compared with the maximum skin hydration value obtained by injecting 0,5ml/2cm² of water into the skin (Novojet device)

Hydrated skin after just one application of the product

OVERALL IMPROVEMENT OF FACE SKIN

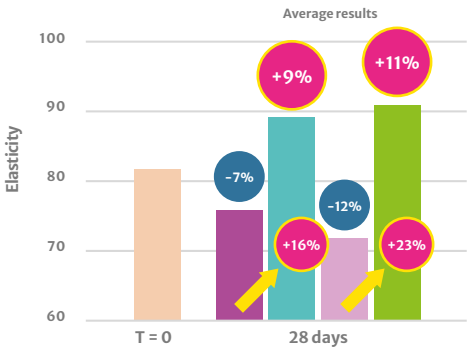
Technique: Dematoscope SIFPRO

OVERALL IMPROVEMENT OF FOREARM SKIN



ELASTICITY

Measured with Cutometer Dual MPA58



CLINICAL EVALUATIONS

- **100%** BRIGHTNESS
- **100%** REDUCTION SKIN SURFACE ROUGHNESS
- **100%** TIGHTENING EFFECT
- **100%** EFFECTIVE SMOOTHING SKIN SURFACE

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