

From Nature the Optimal System for Immuno Defence  
and Stimulation of Skin Repair Process

# NIO-GLUCAN

NIOSOME TECHNOLOGY



Skin Redness Reduction –55% in 5 days

Skin Hydration +35%

## A NATURAL COMPLEX TO RE-BALANCE SKIN IMMUNE SYSTEM

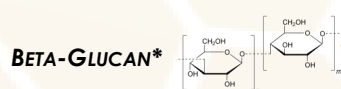
NIO-GLUCAN is a natural skin defence system to contrast aging and restore skin to its youthful look.

Thanks to the synergic combination of Beta-glucan and Magnolol, NIO-GLUCAN promotes cutaneous immune defence, antioxidant and anti-inflammatory protection. **It is especially effective in reducing sign of ageing reinforcing skin barrier by stimulation of natural repair processes.**

**NIO-GLUCAN IS THE NATURAL SKIN DEFENCE SYSTEM** DEVELOPED TO BALANCE SKIN OVERACTIVITY TO CONTRAST SKIN AGING AND RESTORE A YOUTHFUL LOOK



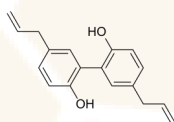
## NIO-GLUCAN NATURAL INGREDIENTS



### ROS SCAVENGING & DERMAL MATRIX PROTECTION

*Stimulate Macrophages to fight off invading substances & stimulate Keratinocyte proliferation*

**MAGNOLOL/  
HONOKIOL**



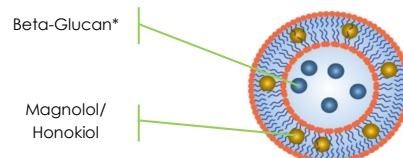
### ANTI-OXIDANT & ANTI-INFLAMMATORY

*Reduce Inflammatory Signals & Dermal Matrix Degradation*

\*see INCI name for further informations

### NIO-GLUCAN

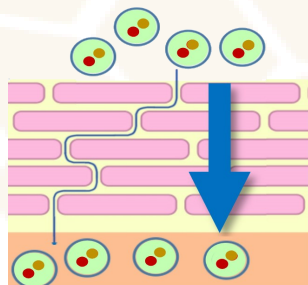
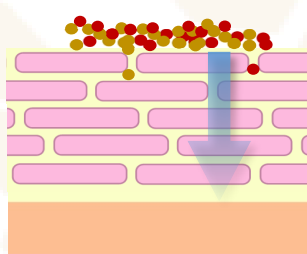
NATURAL INGREDIENTS ARE ENCAPSULATED INSIDE **NIOSOME VESICLES**



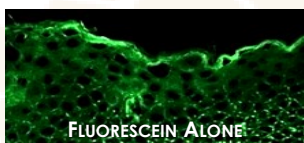
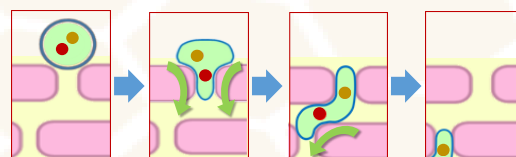
## ULTRA-DEFORMABLE NIOSOME

*The Most Advanced Skin Delivery System*

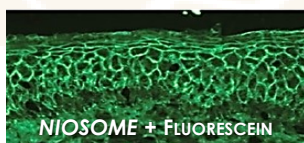
CLASSIC ACTIVE INGREDIENTS



Ultra-Deformable Niosome are elastic vesicles able to **squeeze through Stratum Corneum** reaching living cells inside epidermis increasing the bioavailability of active ingredients



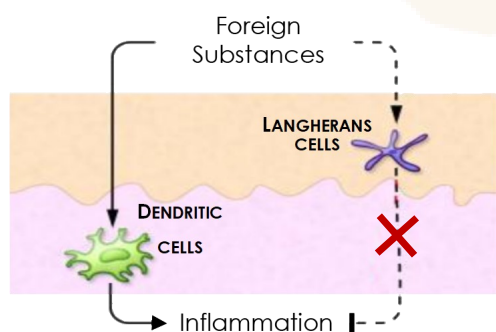
FLUORESCIN ALONE



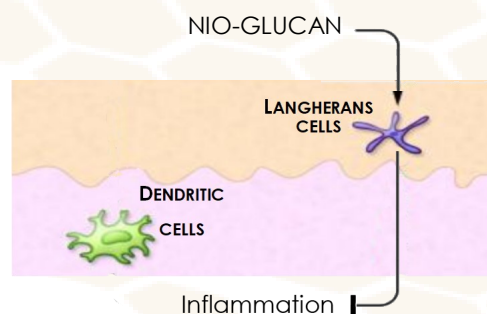
NIOSOME + FLUORESCIN

**NIOSOME DELIVER ACTIVE INGREDIENTS  
WHERE MUST BE REALLY EFFECTIVE  
DRIVING THROUGH THE STRATUM CORNEUM**

## NIO-GLUCAN MODE OF ACTION



**Inflammation Signals  
Rebalanced**

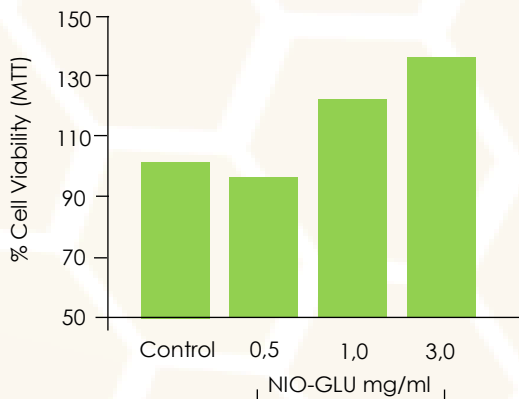




## IN VITRO EFFICACY

### NIO-GLUCAN ON KERATINOCYTE PROLIFERATION

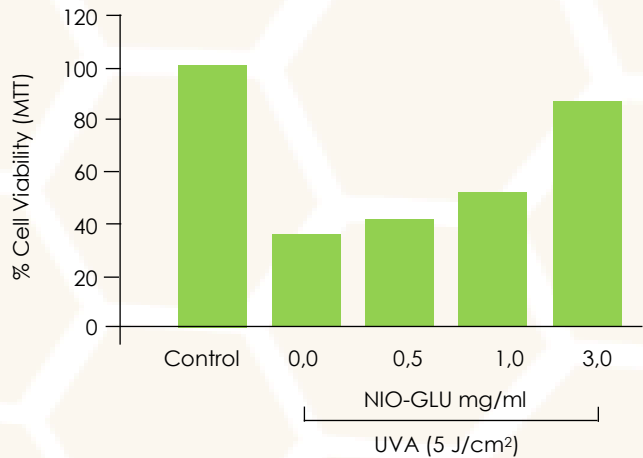
Measurement of Keratinocyte HaCaT cells viability with MTT Method in culture with 0-3 mg/ml NIO-GLUCAN Solution after 96 hours



KERATINOCYTE PROLIFERATION +40%

### NIO-GLUCAN ON UVA-induced DAMAGE

Measurement of Keratinocyte HaCaT cells viability with MTT Method in culture pre-treated with 0-3 mg/ml NIO-GLUCAN Solution after UVA exposure for 48 hours



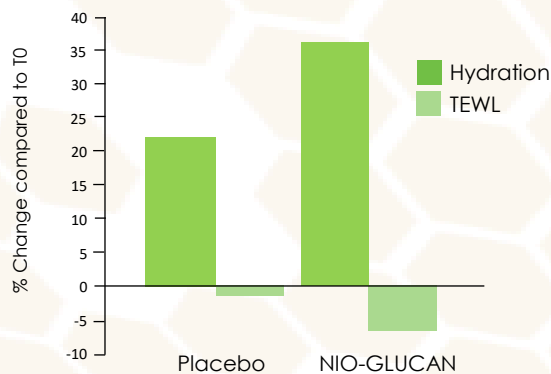
CELL VIABILITY AFTER UV RADIATION +100%



## IN VIVO EFFICACY

### NIO-GLUCAN ON SKIN BARRIER FUNCTION

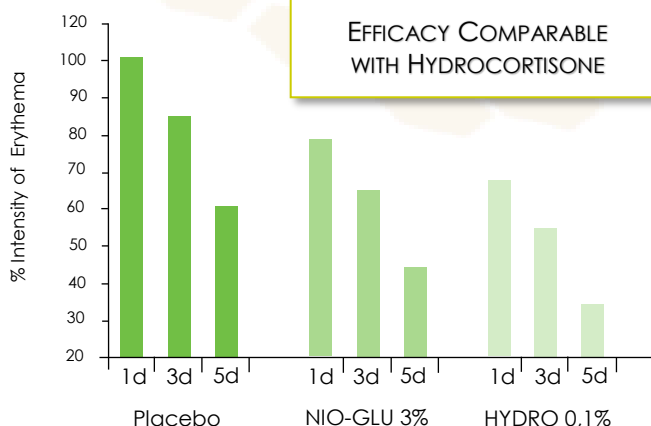
Measurement of Skin Hydration and TEWL using Dermalab Combo technique applying 3% NIO-GLUCAN cream or placebo twice daily for 28 days



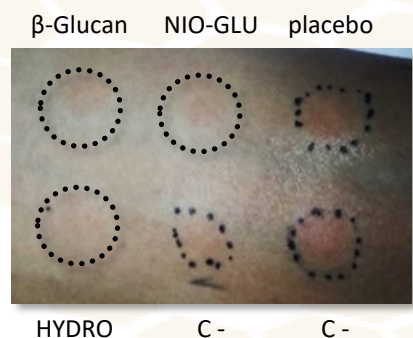
IMPROVED SKIN BARRIER FUNCTION  
HYDRATION +42% IN 4 WEEKS

### NIO-GLUCAN LENITIVE EFFECT

Measurement of intensity of skin erythema using Placebo, NIO-GLUCAN 3% or HydroCortisone after 1,3 and 5 days



EFFICACY COMPARABLE  
WITH HYDROCORTISONE



ERYTHEMA REDUCTION -55% IN 3 DAYS

# NIO-GLUCAN

## NIOSOME TECHNOLOGY

FOR INFLAMMED SKIN

### CLAIMS

- ANTI-AGING
- REFRESHING
- REGENERATING
- SOOTHING EFFECT

### COSMETIC APPLICATION

- ANTI-AGE AND ANTI-WRINKLE CARE
- STRUCTURING AND FIRMING
- SUN CARE

### INCI NAME

Beta-glucan, Magnolol/Honokiol, Polyglyceryl-6 Oleate, Polyglyceryl-6 Laurate, Sorbitan Oleate, Aqua/Water

*\*Naturalis provide an alternative version named NIO-GLUCAN CM which contains CarboxyMethyl Beta Glucan instead of Beta-Glucan*

### SAFETY & TOXICITY

Reference COMMISSION REGULATION (EC) No 987/2008 of 8 October 2008 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH):

- non-irritating
- non-toxic

### FORMULATION SUGGESTIONS

<b>Use Levels:</b>	1 - 3%
<b>pH range:</b>	3,5 - 8,5
<b>Incorporation:</b>	Dilute in water before blending. Do not heat above 50°C
<b>Origin:</b>	Botanical, Biotechnological
<b>Application:</b>	Lotions, O/W and W/O emulsions, Gels
<b>Preservative:</b>	None
<b>Solubility:</b>	Dispersible in water
<b>Compliant regulation:</b>	US - EU - China - Japan
<b>Certification:</b>	COSMOS Pending



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