

 OPUNTIA BIOCOMPLEX™ SH

KEEP YOUR  
**SKIN**  
HEALTHY



MICROBIOME FRIENDLY



**BIONAP**  
BIOACTIVE NATURAL PRODUCTS

Skin is colonized by a dense community of microorganisms, called skin microbiota. The symbiotic relationship between the skin and its microbiota creates a complex barrier against external insults. Skin microbiota is in constant dialogue with its host by the virtue of complex signals provided by the innate and the adaptive immune systems. This mutualistic relationship leads to a delicate equilibrium, which is a necessary condition for healthy skin.

Changes in the composition of cutaneous microbial communities, such as loss of diversity, have been linked to chronic skin inflammatory conditions, including acne, atopic dermatitis and psoriasis.

**Prebiotics are food ingredients that promote the growth of beneficial microorganisms. The role of a cosmetic prebiotic is to maintain the relative abundance of the bacteria, promoting the growth of commensals and maintaining a stable level of commensals that have become pathogens.**

## OPUNTIA BIOCOMPLEX™ SH

**OPUNTIA BIOCOMPLEX™ SH** is a powder extract obtained from the juice of Opuntia cladodes, containing a blend rich in mucilage and low molecular components (mannitol, lactic acid, piscidic acid, eucomic acid)

### RECOMMENDED USAGE CONCENTRATIONS

LEAVE ON: 2-5%  
RINSE-OFF: 0,5-2%



### INCI NAME:

Opuntia ficus-indica stem extract, Maltodextrin

**COUNTRY OF ORIGIN:** Sicily - Italy

**PARTICULAR SIGN:** Natural Origin Index (ISO 16128):1  
*Sustainable ingredient from by-product*

Thanks to its composition, rich in nutrients, OPUNTIA BIOCOMPLEX SH exerts a prebiotic activity, promoting the growth of beneficial bacteria to allow them to better compete with harmful ones. It maintains a balance into the bacterial community.

## APPLICATIONS

- Microbiome-friendly formulations
- Skin care and hair care products for dry and sensitive skin
- Skin repair
- Co-adjutant in anti-dandruff shampoo
- Cosmetic products for acne-prone skin



# KEEP YOUR SKIN HEALTHY

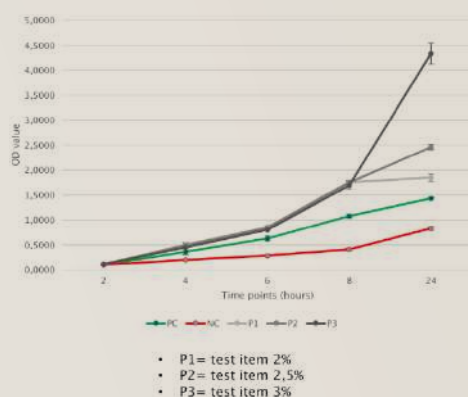
## IN VITRO TEST

**OPUNTIA BIOCOMPLEX™ SH** has been tested at three concentrations (2%, 2.5% and 3%) on *S. Epidermidis*, *S. Aureus*, *C. Acnes*, *L. Pentosus* and its prebiotic or inhibiting effect has been compared to glucose 2% (prebiotic positive control) and to chlorhexidine 1% (antimicrobial positive control) and a negative control. **Evaluated parameters:** bacterial growth and viability

Bacterial strain	Tested concentrations		
	2%	2.5%	3%
<i>S. Epidermidis</i>	++	++	++
<i>S. Pentosus</i>	+	+	+
<i>S. Acnes</i>	-/+	-/+	-/+
<i>S. Aureus</i>	-/+	-/+	-/+

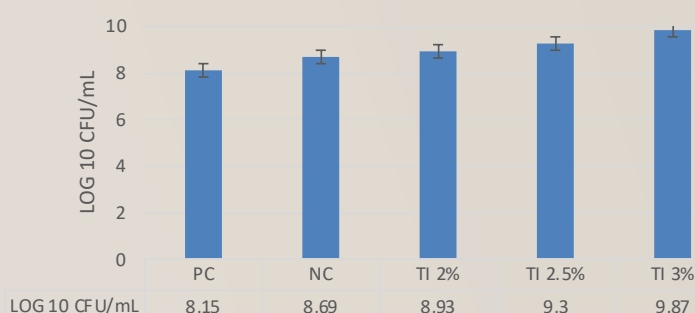
- Prebiotic effect, similar to positive or negative control: +
- Prebiotic effect, higher than positive or negative control: ++
- Absence of effect (no effect on growth): -
- Antagonistic effect (anti-microbial): - -
- Bacteriostatic effect compared to positive or negative control: -/+

## OPUNTIA BIOCOMPLEX™ SH ACTIVITY ON *S. EPIDERMIDIS*



The graph shows the prebiotic effect of **OPUNTIA BIOCOMPLEX™ SH** on the growth of *S. epidermidis*. The effect is concentration-dependent and higher than the positive control.

Bacterial Viable count of *S. epidermidis* at 24h



Prebiotic effect of **OPUNTIA BIOCOMPLEX™ SH** on *S. epidermidis* viability. The prebiotic effect is concentration-dependent. **OPUNTIA BIOCOMPLEX™ SH** at 3% led to an increase of viability almost 100 times higher than the positive control.

These data corroborated the previous findings. Indeed, clinical trials and in vitro tests had demonstrated the remarkable activity of Opuntia Biocomplex SH on skin hydration, barrier strengthening and regeneration processes (skin repair).

## FORMULATIONS

### MOISTURIZING FACE CREAM

96.8%\* natural based ingredients

PHASE	INCI/PCPC	TRADE NAME	%
A	Arachidyl alcohol, behenyl alcohol, arachidyl glucoside	-	3
	Sorbitan stearate	-	2
	Cetyl Alcohol	-	1
	<b>Cynara cardunculus (artichoke) seed oil</b>	<b>CARDO OIL</b>	<b>1</b>
	Caprylic/Capric Triglyceride	-	2,5
	Hydrogenated coconut oil	-	5,5
	Elais guinnensis oil	-	2
	Dimethicone	-	1
B	Polyacrylate Crosspolymer-6	-	0,5
	Glycerin	-	3
	Hydroxyacetophenone	-	0,8
	Disodium EDTA	-	0,1
	Aqua/Water	-	74,2
C	Opuntia ficus-indica stem extract, Maltodextrin	<b>OPUNTIA BIOCOMPLEX SH</b>	<b>2,5</b>
	Hydroxyethyl acrylate/Sodium acryloyldimethyltaurate copolymer and squalane and polysorbate 60	-	0,5
D	Phenoxyethanol	-	0,3
	Sunflower seed oil, tocopherol	-	0,1
	Parfum/Fragrance	-	qs

### NATURAL HAIR CONDITIONER

with *Opuntia Oil & Stem Extract*

97%\* natural based ingredients

PHASE	INCI/PCPC	TRADE NAME	%
A	Aqua/Water	-	79,6
	Glycerin	-	4
	Cetearyl alcohol, behentrimonium chloride, guar hydroxypropyltrimonium chloride, steardopropyl dimethylamine, argania spinosa kernel oil, cocos nucifera (coconut) oil, citric acid, cetearyl glucoside	-	7,2
B	<b>Opuntia ficus-indica seed oil</b>	<b>OPUNTIA OIL</b>	<b>1</b>
	Tocopheryl acetate	-	0,2
	Dicaprylyl ether	-	1
C	<b>Opuntia ficus-indica stem extract, maltodextrin</b>	<b>OPUNTIA BIOCOMPLEX SH</b>	<b>1,5</b>
	Aqua/water	-	4,5
D	Benzyl alcohol, Glyceryl caprylate, Glyceryl Undecylenate	-	1
	Parfum/fragrance	-	qs



\* Natural Origin Content calculated at the best of our knowledge in accordance with our understanding of ISO standard 16128. The content was calculated with suppliers' information on naturalness when available or otherwise with our estimations.

CERTIFICATED



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