



Research & Trading



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BIOLIN

A Preventive

Prebiotic Active





Introduction

Friendship makes beauty

Are you sure you are alone?

- There are always billions invisible but loyal friends around you!

Who are your friends?

- Bacteria
- Fungi
- Moulds

What they can live from?

- Our sweat, sebum and dead skin

What they can do for you?

- Protect us from hostile bacteria.





Introduction

Friendship makes beauty

What the hostile bacteria can cause?

- Itching
- Redness
- Excess scaling
- Red spots
- Irritations

Why our friends are in a danger?

- Excess hygiene
- Preservatives
- Environmental conditions
- Sunlight, extreme coldness
- Medicine (especially antibiotics)








Introduction

Saprophytic versus Pathogenic

BENEFICIAL ORGANISMS		HARMFUL ORGANISMS	
Staphylococcus capitis			Candida albicans
Corynebacterium xerosis			Staphylococcus aureus
Micrococcus kristinae			Propionibacterium acnes
Lactobacillus pentosus			Malassezia furfur

The role of beneficial bacteria:

-  Competitive protection against the growth of harmful organism
-  Participating in the skin metabolism
-  Reinforcing the immune system by surface antigens



The essential balance

A) More harmful bacteria penetrate into the skin

B) The skin defence system is alarmed and is producing more and more oxidizing components to kill the harmful bacteria.

C) This excess of oxidizing substances destroys also healthy skin cells: leading to redness, itching and irritation.

D) The destruction of healthy skin cells leads to destruction of the skin barrier

E) The destruction of the skin barrier leads to more penetration of foreign substances such as harmful bacteria

Step B) + C) + D) are occurring in higher amounts

Short term effect: leading to **INFECTION** and **INFLAMMATION**
Long term effect: premature formation of **WRINKLES**



Prebiotic Activity

The target:

- Make the friendly organism stronger against important changes in the skin balance and to reduce the harmful invaders

The definition:

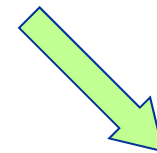
- A food supplement for the friendly organism, while the harmful organism can not use the prebiotic as a food supplement. In presence of a prebiotic the friendly bacteria can recover and grow faster than the harmful. Even when the natural balance is disturbed, the prebiotic helps to recover the friendly bacteria



Beneficial organisms



Harmful organisms





BIOLIN

Function and chemical structure

Function

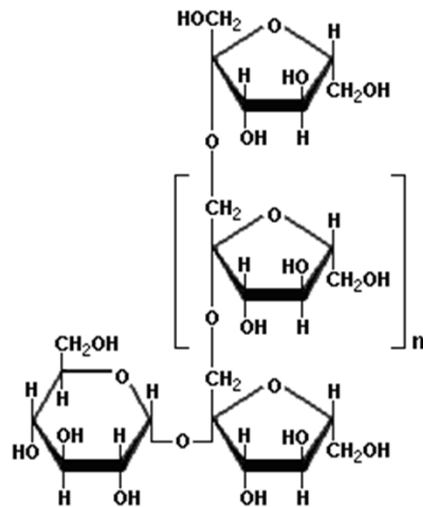


Powerful prebiotic which boosts the grow of the friendly skin organisms, without the stimulation the harmful bacteria

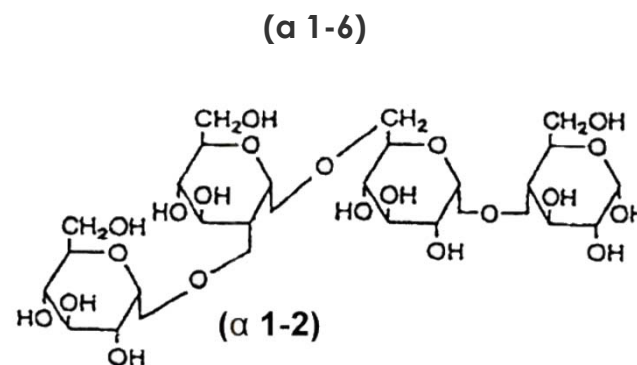
The chemical struction:



Mixture of gluco-oligosaccharides and Inulin



Inulin



Gluco-oligosaccharides



BIOLIN

Efficacy tests

Study of metabolisation of BIOLIN by skin flora

Principle:

The aim of this study is to investigate the degree of consumption of BIOLIN by various micro organisms isolated from the skin or the vaginal mucosa.

Protocol:

A part of the skin micro organisms was cultivated on their reference medium substrate + 0.5% glucose. Glucose is used as a reference because almost all micro organisms can consume it.

The other part was cultivated on their reference medium + 0.5% BIOLIN. After 48 hours, the remaining glucose and BIOLIN was quantified



BIOLIN

Efficacy tests

Study of metabolisation of BIOLIN by skin flora

Results:

Saprophytic flora	BIOLIN/P	Glucose reference
<i>Micrococcus kristinae</i>	+++	+++
<i>Micrococcus sedentarius</i>	+	-
<i>Staphylococcus capitis</i>	+	+++
<i>Corynebacterium xerosis</i>	++	+++
<i>Lactobacillus pentosus</i>	+++	+++

Pathogenic flora	BIOLIN/P	Glucose reference
<i>Staphylococcus</i>	-	+++
<i>Corynebacterium</i>	-	+++
<i>Propionibacterium acnes</i>	-	+++
<i>Gardnerella vaginalis</i>	-	+



BIOLIN

Efficacy tests

Study of competitive growth

Principle:

This test demonstrates the effect of BIOLIN on the speed of growth of a friendly and a harmful bacteria

Protocol:

The bacteria are cultivated on a medium (tryptone USP) containing 0.5% BIOLIN/P;
After 24 hours of growth, the bacteria are counted:

a) Combined culture 1 - competitive growth between:

Staphyococcus aureus (pathogenic flora)

Micrococcus kristinae (saprophytic flora)

b) Combined culture 2 - competitive growth between:

Corynebacterium xerosis (pathogenic flora)

Micrococcus krastinae (saprophytic flora)



BIOLIN

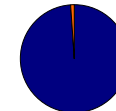
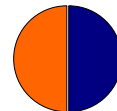
Efficacy tests

Study of competitive growth

Results:

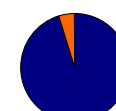
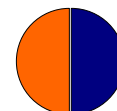
a) Combined culture 1 - competitive growth between:

Incubation time	T=0	T=6h	T=24h
<i>Staphylococcus aureus</i> (cell/ml)	10^6	10^5	$5 \cdot 10^4$
<i>Micrococcus kristinae</i> (cell/ml)	10^6	10^7	10^8



b) Combined culture 2 - competitive growth between:

Incubation time	T=0	T=6h	T=24h
<i>Corynebacterium xerosis</i> (cell/ml)	10^6	$5 \cdot 10^5$	10^5
<i>Micrococcus kristinae</i> (cell/ml)	10^6	10^7	10^8





BIOLIN

Efficacy tests

Inhibitory potential of BIOLIN for yeasts

Principle:

This test indicates the growth of 2 yeasts *Candida albicans* and *Malassezia furfur* in the presence of BIOLIN

Protocol:

The yeasts *Candida albicans* and *Malassezia furfur* are separately cultivated on a tryptone salt culture containing 1% of BIOLIN. 24h later the yeasts are counted



BIOLIN

Efficacy tests

Inhibitory potential of BIOLIN for yeasts

Results:

Incubation time	T=0	T=24h
<i>Candida albicans</i>	10^7	10^6
<i>Malassezia furfur</i>	10^7	10^6



BIOLIN

Efficacy tests – clinical tests

Dermatological evaluation of Baby cream with 2% BIOLIN

Principle:

- Determination of the irritation potential of product containing BIOLIN
- Determination of the elimination potential in subjects known to be sensitive to one of the ingredient present
- Determination of the allergic potential of the cosmetic product testes
- Determination of the effect of Biolin

Protocol:

- Volunteers:
- 15 Babies (6 months-2 years)
 - 30 Adults (age 15-60) – Repeated User Tests
 - 50 Adults (age 21-58) – Human Patch Test
 - with atopic, sensitive skin



BIOLIN

Efficacy tests – clinical tests

Dermatological evaluation of Baby cream with 2% of BIOLIN

Conclusion:

All 50 atopic or sensitive subjects have been tested with the test product. Although all subjects were very sensitive to cosmetics, only 1 subject showed a slight erythema reaction.

All 30 atopic or sensitive subjects were tested with the test product. No reactions were observed.

14 of 15 babies were tested twice with the test product. One Mother didn't return. Only 1 subject reacted slightly with the test product. Although this reading could not be repeated at the second challenge.

Product containing 2% BIOLIN is:

- **suitable and safe for hypo allergenic claims**
 - **suitable for sensitive patients**



BIOLIN

Efficacy tests – clinical tests

Dermatological evaluation of Feminine Wash with 2% BIOLIN

Principle:

Determination of the irritant potential of the cosmetic product tested

Determination of the elimination potential in subjects known to be sensitive to one of the ingredients present.

Determination of the allergenic potential of the cosmetic product tested

Protocol:

Volunteers: 50 Adults (age 20-71) – Repeated User test



BIOLIN

Efficacy tests – clinical tests

Dermatological evaluation of Feminine Wash with 2% BIOLIN

Conclusion:

All 50 patients have been tested with the test product during 2x2-4 weeks.
No serious reaction has been observed, although 52% of the patients were sensitive to this kind of product

Product containing 2% BIOLIN is:

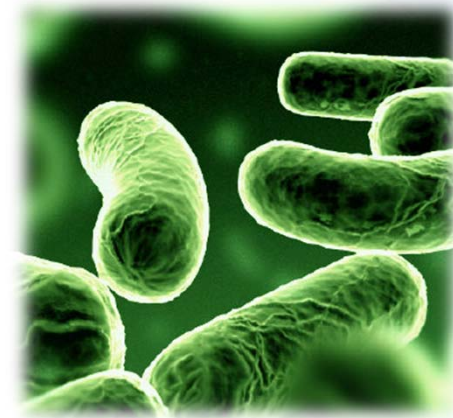
- **suitable and safe for hypo allergenic claims**
 - **suitable for sensitive patients**



BIOLIN

Efficacy tests - conclusion

BIOLIN is an efficient prebiotic which stimulates friendly organisms, while the harmful organisms are reduced.





BIOLIN

Cosmetic performance

BIOLIN has the unique properties to regulate the skin balance, by stimulating the protective organisms on our skin. As a result of this regulating power the following cosmetic performances can be obtained :

- **Helps to prevent itching**
- **Helps to prevent redness**
- **Helps to prevent skin disorder**
- **Helps to restore the skin barrier**
- **Helps to prevent mal odour**
- **Helps to prevent dandruff**
- **Quenches the negative effect of preservatives**
- **Maintains the healthy appearance of our skin**
- **Maintains the skin barrier**





BIOLIN

Cosmetic application

- **Baby cosmetics**
- **Feminine care**
- **Hygiene products**
- **Sensitive skin products**
- **Elderly cosmetics**
- **Anti dandruff shampoo**
- **Anti-acne products**
- **Suncare products**
- **Men's grooming**
- **Shampoo / Shower products**
- **Deodorants**





BIOLIN/P

Prebiotic Lipbalm LB-120330A



Phase	Ingredient	INCI	Activity	%
A	Water	Aqua		2
	Biolin/P	<i>Inulin, Alpha-Glucan Oligosaccharide</i>	<i>Prebiotic</i>	<i>1</i>
	Hyaluronic Acid	Sodium Hyaluronate	Moisturizer	0.02
B	<i>Neocare P3R</i>	<i>Polyglyceryl-3 Polyricinoleate, Polyglyceryl-3 Ricinoleate</i>	<i>Emulsifier Hydration Booster</i>	<i>1</i>
	Apricot Kernel Oil, Refined	Prunus Armeniaca Kernel Oil	Vegetable Oil	2
C	Sunflower Oil, Refined	Helianthus Annuus Seed Oil	Vegetable Oil	42.08
	Coconut Oil, Refined	Cocos Nucifera Oil	Vegetable Oil	24.3
	Castor Oil, Pressed	Ricinus Communis Seed Oil	Vegetable Oil	8
	Squalane Vegetable	Squalane	Skin Natural lipids	5
	Beeswax White, Pure	Cera Alba	Vegetable Wax	10
	Cocoa Butter, Powderized	Theobroma Cacao Seed Butter	Vegetable Butter	4
D	Aroma	Aroma	Aroma, taste	QS
	Seabuckthorn Pulp Oil	Hippophae Rhamnoides Oil	Vegetable Oil	0.1





BIOLIN/P

Prebiotic Bath Powder - PBP-121114-A



Phase	Ingredient	INCI	Activity	%
A	Remytec FI	Oryza Sativa Starch	Starch	93
	Biolin/P	Inulin, Alpha-Glucan Oligosaccharide	Prebiotic powder	5
	Parfume	Parfum	Perfume	QS



BIOLIN

Technical information

Grades: BIOLIN - Liquidified Oligosaccharide in Inulin
BIOLIN/P - Oligosaccharide in Inulin powder

Dosage: 1 – 5%, add to water phase

Condition: temperature below 50°C, pH 4-10

INCI/CTFA:

	BIOLIN	BIOLIN/P
INCI:	Inulin (>60%), Aqua (25%), Alpha-glucan oligosaccharide (<15%)	Inulin (>80%), Alpha-glucan oligosaccharide (<20%)
CTFA:	Inulin (>60%), Water (25%), Alpha-glucan oligosaccharide (<15%)	Inulin (>80%), Alpha-glucan oligosaccharide (<20%)

Solubility: soluble in water, not soluble in oils



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**THANK YOU FOR
YOUR ATTENTION**