

# preBIULIN™ Serie

Natural-Prebiotic-Functional!

## Skin Friendly – Skin Microbiota Friendly

The most impressive part of our skin barrier is the microbial layer. The skin microbiota is the first and outermost layer of our defence against the hostile environment. All species of this microbial community keep each other in balance. Their unmeasurable strength comes from that balance. Cosmetic products are applied on this microbial layer, therefore cosmetics will disturb this balanced community. This unbalance leads to higher sensitivity, skin disorder, barrier disruption and eventually premature aging. Cosmetic products therefore need to respect the microbial balance and support this microbial barrier.

The preBIULIN collection is a serie of natural ingredients supporting the skin microbiota in their difficult task. The beneficial prebiotic power is proven through pioneering IN-VIVO tests. The preBIULIN collection combines this prebiotic activity with a high performance functionalities such as thickening, stabilizing, suspending, opacifying and high performance conditioning.



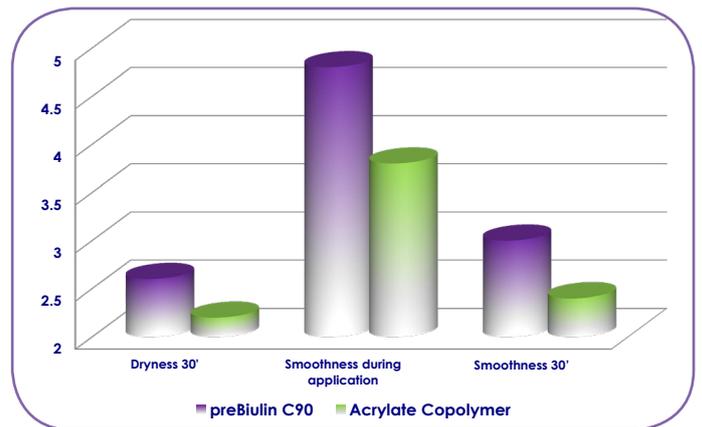
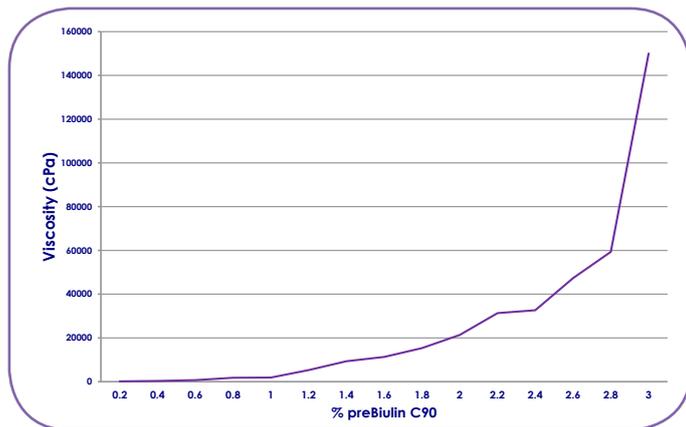
## preBIULIN C90: Elegant Multitasking Thickening

A thickener long waited for. Thickens natural shampoo's, body washes. Transparency is possible, with a smooth and elegant aspect.

It forms clear natural gels even in the hardest conditions, such as extreme pH, salt.. A natural alternative that surpasses the possibilities of acrylate thickeners. The thickening is performed without tackiness but with a WOW after feel.

It provides rich silky feel in both rinse off and leave on formulations. Washes based on preBIULIN C90 provides the skin with a conditioned rich after feel.

Emulsions stabilized with preBIULIN C90 have a stunning skin feel.



## preBIULIN OP: Immortal Pure White

A highly purified extract from chicory root turns transparency into an avalanche of warm snowy white sensation. It offers a noticeable caring conditioning performance on hair and skin. It improves wet and dry feel.

It supports the growth of lactobacilli and blocks the invasion of fungi, which makes it the ideal choice for intimate hygiene products and scalp treatments.

Selective fermentation - pH results for harmful / foreign micro-organisms

Specie	Neg control	Pos control	pOP	Fermentability pOP					
Staphylococcus aureus	6,1	4,6	5,8	■	■	■	■	■	■
Propionibacterium acnes	6,9	4,8	6,7	■	■	■	■	■	■
Escherichia coli	7,1	4,9	6,9	■	■	■	■	■	■
Bacteroides bivius	6,7	4,7	6,7	■	■	■	■	■	■
Bacteroides intermedius	6,1	5	6,2	■	■	■	■	■	■
Clostridium cadaveris	7,2	5,5	7	■	■	■	■	■	■
Fusobacterium varium	6,7	5,7	6,7	■	■	■	■	■	■
Peptostreptococcus prevotii	6,8	5,8	6,7	■	■	■	■	■	■
Veillonella parvula	7,2	7	7,1	■	■	■	■	■	■
Citrobacter diversus	7	4,8	7	■	■	■	■	■	■
C albicans	6,1	5,6	6,1	■	■	■	■	■	■



Selective fermentation - pH results for protective micro-organisms

Specie	Neg control	Pos control	pOP	Fermentability pOP					
Lactobacillus gasseri	5,7	4,0	5,0	■	■	■	■	■	■
Lactobacillus salivarius	5,6	3,8	5,0	■	■	■	■	■	■

non-fermented

fermented



# preBIULIN FOS: Uniting the Impossible

## Tempering Aggressive Ingredients

preBIULIN FOS turns aggressive cosmetic formulations, such as antimicrobial products into skin friendly and skin microbiota friendly products. Additionally it even boosts the anti-microbial effect (Fig 1). It purifies the skin from unwanted microorganisms, while arming the skin microbiota barrier (Fig 2).

preBIULIN FOS is also a natural hair conditioner in both shampoo's and conditioners. The high soluble fructose polymer outsmarts Polyquaternium-10 in shampoo and Cetrimonium chloride in conditioners.

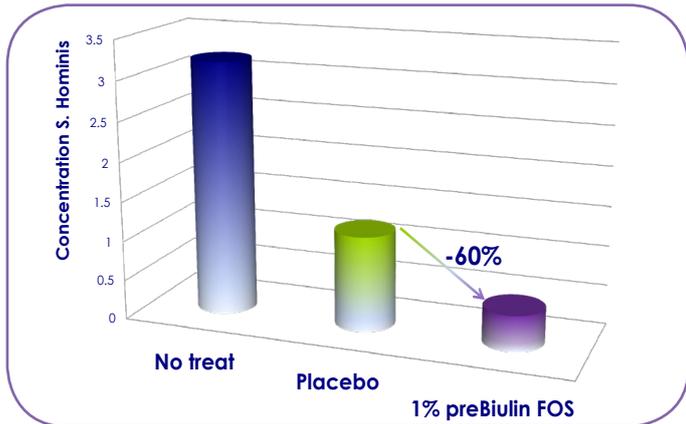


Fig 1 Stabilizing effect on S. Hominis after alcohol perturbation

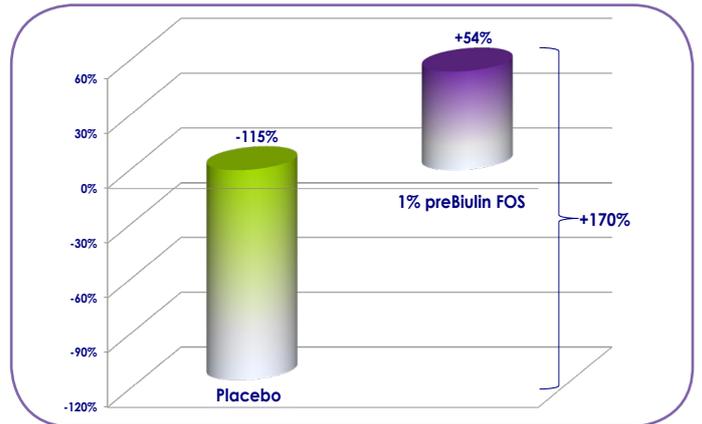
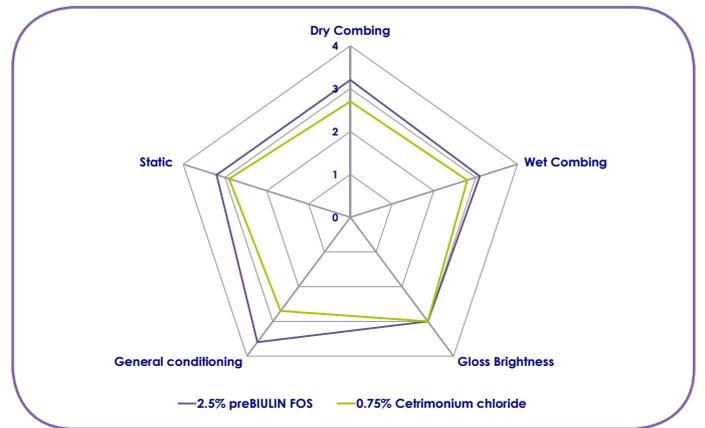
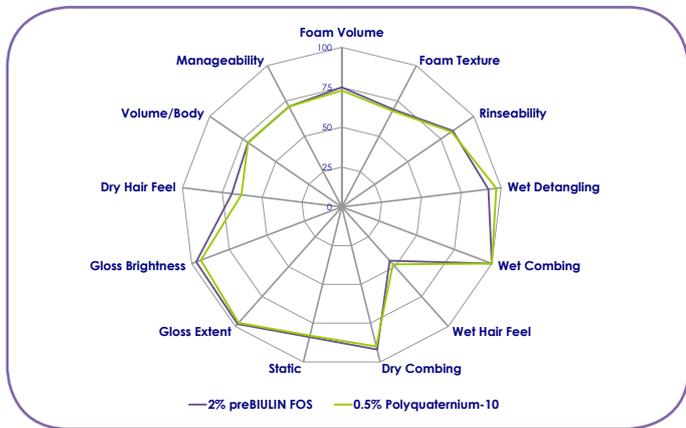


Fig 2 Stabilizing effect after alcohol perturbation on skin microbiota

preBIULIN FOS has a noticeable conditioning effect on the skin in rinse off products.



# preBIULIN AGA: The gift that keeps giving

A prebiotic super moisturizer with a counter preservative action on the skin. preBIULIN AGA undoes the damaging effect of preservatives.

As a moisturizer preBIULIN AGA outsmarts the emperor of hydration: hyaluronic acid: Compared to HA it hydrates faster (+50%) / more intensively (+20%) / longer (+70%).

This unseen hydration is most likely due to the supporting effect to the skin microbiota: hydration through the skin microbiota. preBIULIN AGA is the first ingredient to hydrate in this way.

Most preservatives have a damaging effect on the skin microbiota, hence the protective and hydrating biofilm is breached. Therefore preservative can have a drying out effect.

preBIULIN AGA undoes the damage caused by preservatives almost completely within 1 hour (Fig 3). After 4h the skin microbiota has even improved, as it became more dense and more evenly dispersed over the skin surface. Without preBIULIN AGA the skin microbiota is far from being restored after 4h.

PreBIULIN AGA protects the complete skin barrier in the presence of preservatives.

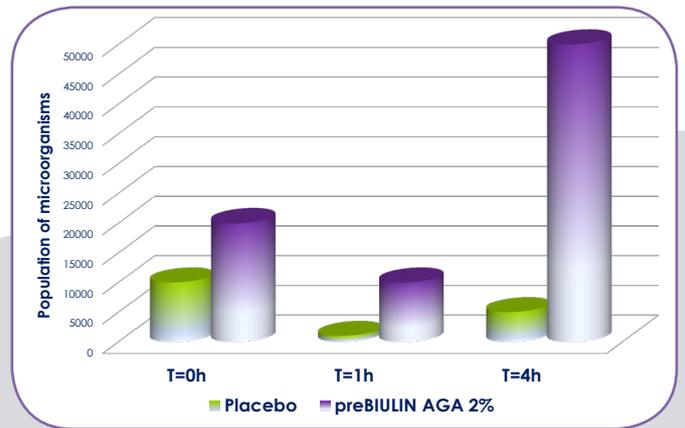


Fig 3 Skin microbiota population

## APPLICATIONS

preBIULIN C90	preBIULIN OP	preBIULIN FOS	preBIULIN AGA
Shampoos Body washes Serums Creams	Shampoos Body washes	Hand sanitizers Peelings Acne products Anti-dandruff Soaps Body washes Conditioning shampoo's	Facial care Body care Handcream Suncare



## TECHNICAL DATA

	C90	OP	FOS	AGA
<b>INCI</b>	Cellulose Gum Xanthan Gum, Inulin, Cellulose, Glucose, Fructose	Cichorium Intybus Extract	Inulin, Fructose	Inulin
<b>DOSAGE</b>	0.1 - 3%	0.5 - 4%	1.0 - 2%	0.5 - 3%
<b>ASPECT</b>	Powder	Powder	Powder	Powder



preBIULIN PURE – Prebiotic Skin Purification  
Coming Soon: Q2 2019

proBIULIN ANA – Skin Controlling Probiotic  
Coming soon: Q2 2019