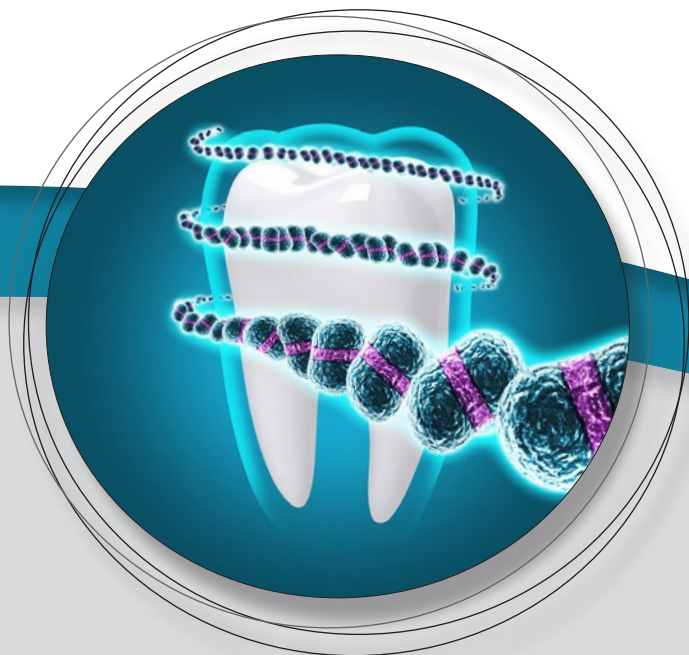


# preBIULIN® ORAL

Precision-Protection for healthy teeth and a healthy body



Natural & Sustainable



**PATENT  
PENDING**

## A synergy of prebiotic polysaccharides supporting oral health

PreBIULIN® ORAL, natural polysaccharides derived from chicory and sugar cane, supports the oral hygiene through:

- Strengthening sensitive teeth
- Fighting against dental plaque
- Preventing tooth decay
- Reducing bad breath
- Improving the anti-microbial protection
- Neutralising the adverse effect of an unhealthy diet
- Improving the performance of toothpaste

PreBIULIN® ORAL also promotes indirectly the overall health of the human body.

## The Oral microbiome

The first microorganism to colonize and to protect our mouth is *Streptococcus salivarius*. This bacteria protects us in endless ways for the rest of our entire life. As soon as the teeth appear *S mutans* and *S sanguis* colonizes the hard surface. Finally, approximately 700 species, inhabit the mouth at a neutral pH. All together they maintain our health.

The *S salivarius* controls and restores the balance where necessary.



## Tooth decay

As long as this immense community is balanced, the teeth and our general health is guaranteed. Unhealthy habits such as the consumption of glucose, alcohol and soda disrupt this balance. *S mutans* transforms glucose into plaque and acids. The plaque is an ideal habitat for acid-producing bacteria. These acids then destroy the enamel of teeth and bring the oral microbiome out of balance. The oral microbiome loses its protective power: the unprotected teeth decay.

## General health

The mouth is the gate of our body. Inhaled air and consumed food are potential dangers containing pathogens. A healthy and balanced oral microbiota is an efficient gate keeper for our teeth, gums and our entire body. Chronical diseases and high blood pressure are associated with an unbalanced oral microbiome.

*S salivarius* protects us,

- Through the inhibition of acid-producing, mal odour and other unwanted microbes.
- Through the production of ammonia, neutralizing the destructive acids.
- Through making the oral cavity resistant to colonization of unwanted microbes

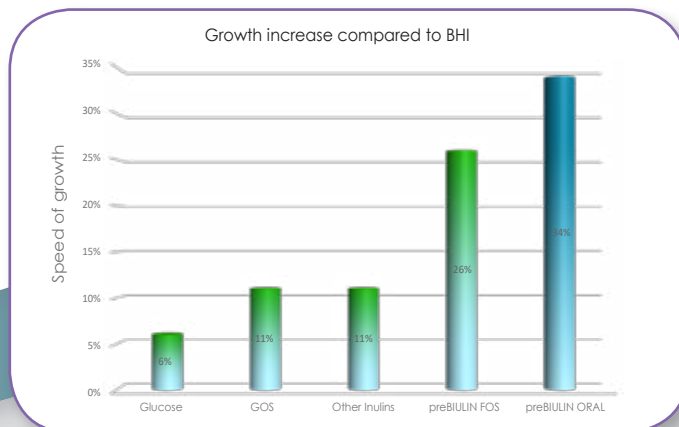
*S salivarius* is the manager and guardian of the oral microbiome balance.

## Mechanism of action

PreBIULIN® ORAL maintains the oral hygiene by strengthening and protecting the oral microbiome balance under all circumstances. PreBIULIN® ORAL supports directly the protective and regulating *S salivarius*, while inhibiting the growth of microorganisms responsible for tooth decay (caries), sensitive gums and bad breath. A healthy oral microbiome stands for an excellent oral health, which results not only in attractive teeth, but also in a healthy body.

## Improves the growth of the protective *S salivarius* (In-vitro)

The growth rate of incubated *S salivarius* is followed during 8h. Compared to other prebiotics, preBIULIN® ORAL supports by far the most efficient *S salivarius*.

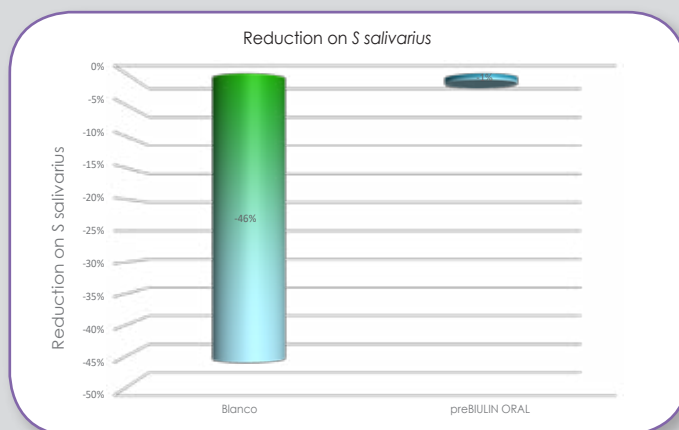


preBIULIN® ORAL works both through mouthwash and toothpaste.

## Study results: preBIULIN® ORAL in mouthwash (In-vivo)

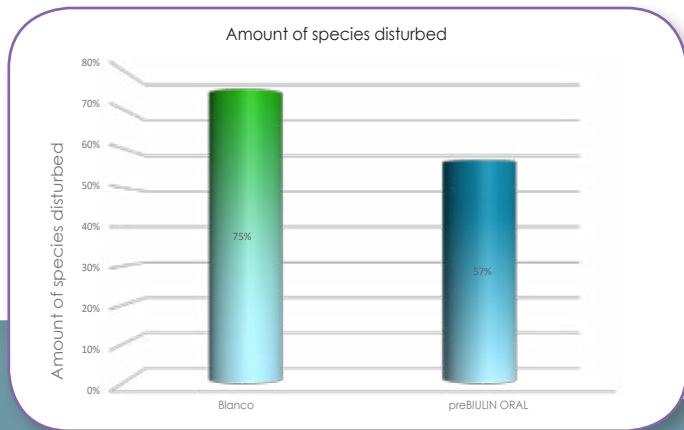
### Protects *S salivarius* after alcohol consumption

Rinsing the mouth with 10% ethanol (blanco) is compared to rinsing with 10% ethanol + 3.3% preBIULIN® ORAL.

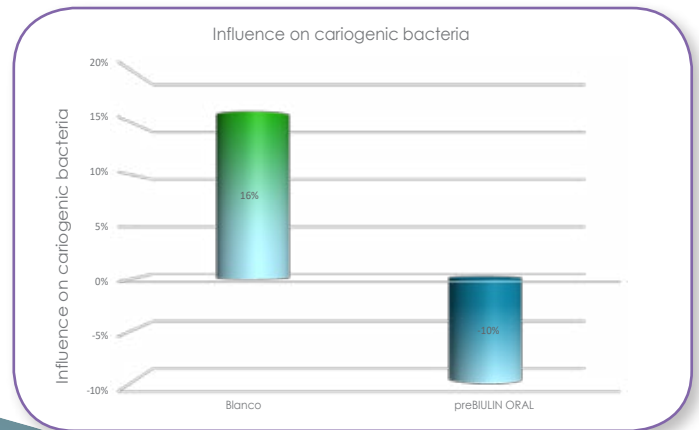


## Study results: preBIULIN® ORAL in mouthwash (continued)

### Reduction of alcohol-damage on the oral microbiome

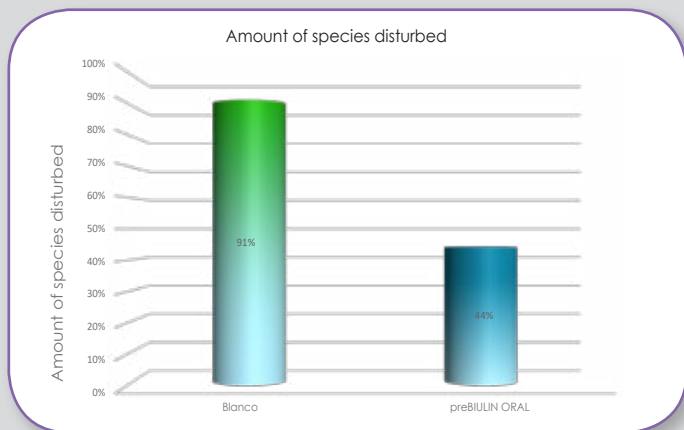


### Reduction of cariogenic bacteria after sugar consumption



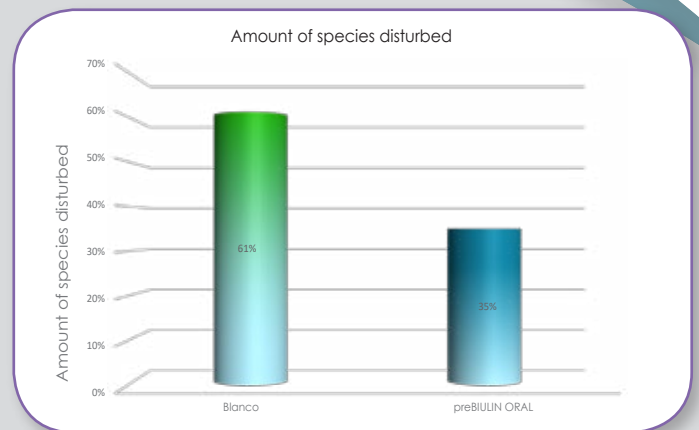
### Reduction of sugar-damage on the oral microbiome

The mouth is rinsed with glucose. Rinsing afterwards with a mouthwash (Blanco) is compared to a mouthwash enriched with 3.3% preBIULIN® ORAL.

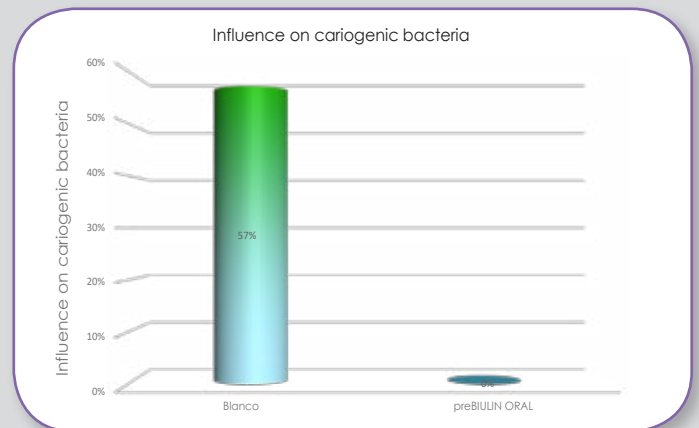


### Reduction of soda-damage on the oral microbiome

The mouth is rinsed with soda (pH 2.7 / 12% glucose). Rinsing afterwards with a mouthwash (Blanco) is compared to a mouthwash enriched with 3.3% preBIULIN® ORAL.



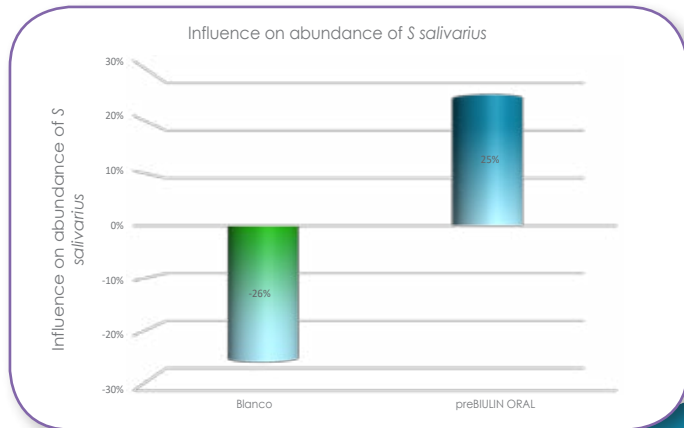
### Suppression of cariogenic bacteria after soda consumption



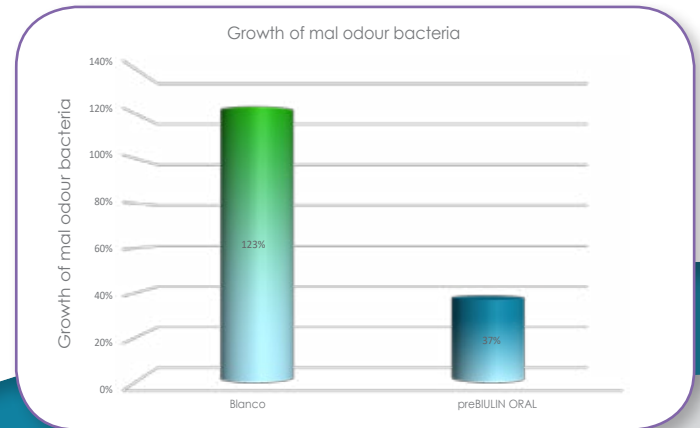
## Study results for preBIULIN® ORAL in toothpaste (In-vivo)

Brushing the teeth with a commercial toothpaste containing SLS (Blanco) is compared to the toothpaste enriched with 3.3% preBIULIN® ORAL.

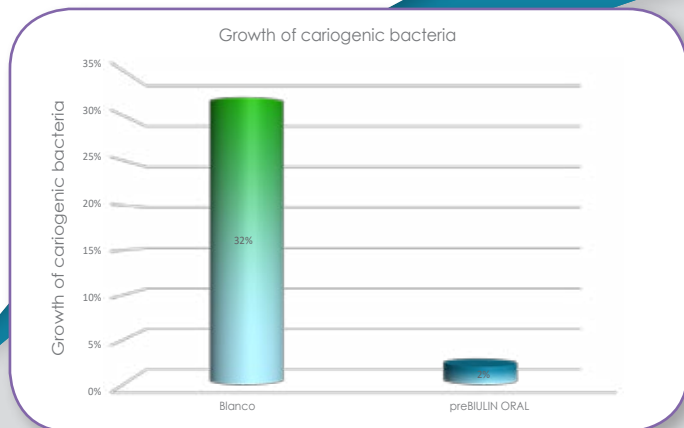
### Improved support of *S salivarius*



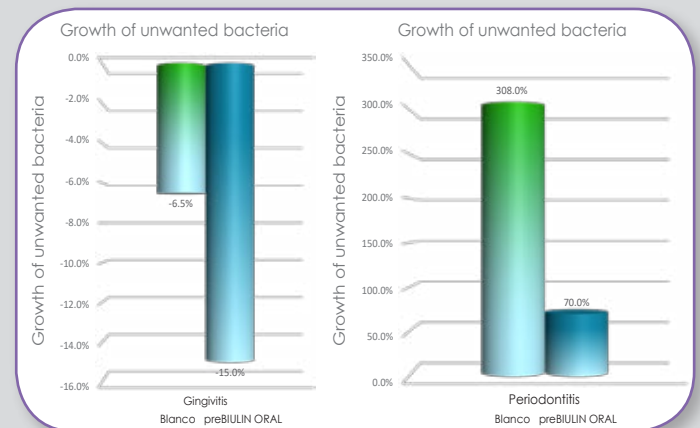
### Reduced growth of bad breath bacteria



### Suppression of cariogenic bacteria



### Reduced growth of unwanted bacteria

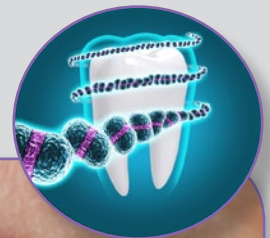


## Claim ideas

- Protection of teeth and gum under all circumstances
- Control bad breath
- Fresh breath
- For healthy teeth
- Clean your teeth more precisely
- For sensitive gums

## Applications

- Toothpaste
- Solid toothpaste
- Desensitizing toothpaste
- Mouth wash



## preBIULIN® ORAL - TECHNICAL DATA

DOSAGE	1 - 5%
ASPECT	Yellow liquid

