

Growth Evolution (Slope) *Streptococcus Salivarius*

Background

A well-known protective microorganism for the oral cavity is *Streptococcus salivarius*. It is the main microorganism present in the mouth and protects our teeth from infections and decay. This test has been performed to investigate the supporting influence of different known prebiotics.

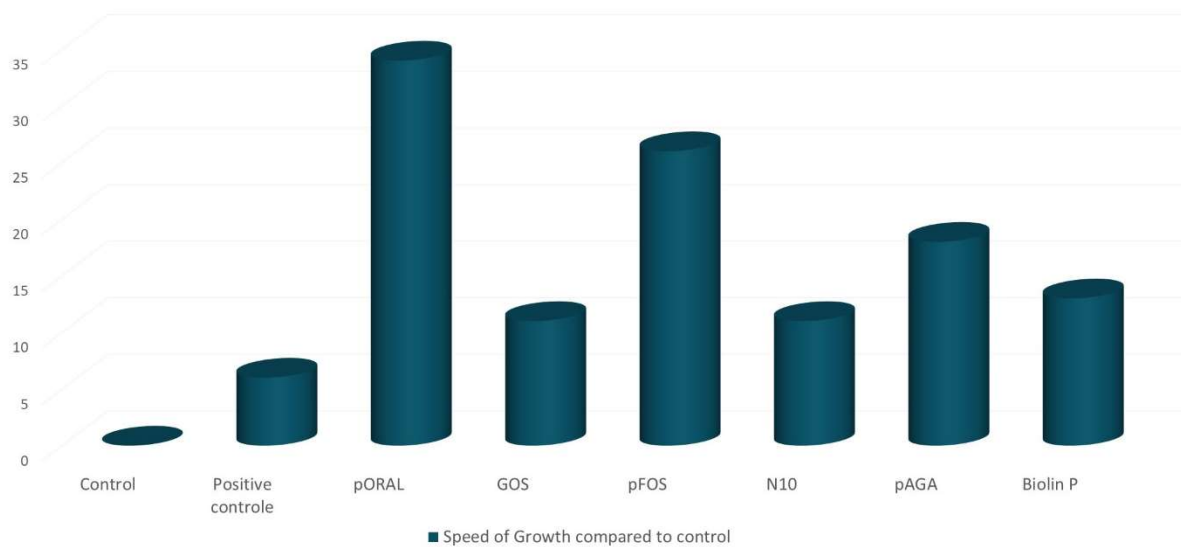
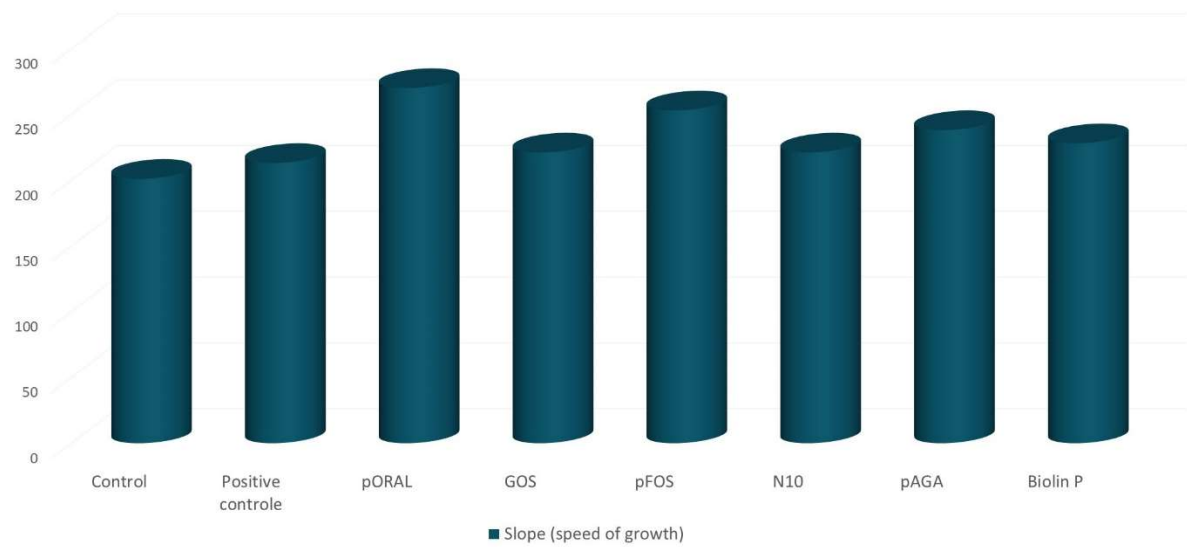
Principle

An ingredient is classified as prebiotic if it supports the growth of the beneficial microbes but does not support the growth of pathogenic microorganisms. For a prebiotic to have a supportive effect, it must be metabolizable by the microorganisms. If the microbe can metabolize the ingredient, the microbe will grow. The faster the microbe grows, the easier it can metabolize the ingredient and the more performing the prebiotic is. Different prebiotics were tested at 1%

Test Laboratory	Balis (NL)	
Test period	2020	
Test products	Negative control Growth	No addition, only BHI medium
	Positive control Growth	1% glucose
	pFOS	1% preBIULIN FOS
	GOS	1% Alpha-Glucan Oligosaccharide
	N10	1% Native Inulin chicory
	pAGA	1% preBIULIN AGA
	pORAL	1% preBIULIN ORAL
Strain name	<i>Streptococcus salivarius</i> DSM 20560 at 10 ⁵ CFU	
Growth medium	Brain Heart Infusion broth (BHI)	
Growth conditions	The culture was put under aerobic conditions at 37°C during 8h.	
Testing conditions	The growth is followed with a Biorad plate reader at 490 nm for 6 hours.	
	The slope of the growth curve is measured at the middle part of the curve.	
	A steep slope = fast growth = high figure	
	The higher the figure, the faster the growth, the more performing the prebiotic is.	

Results

Test	Slope (speed of growth)	Speed of Growth compared to controle
Controle	201	
Positive controle	213	+6%
pORAL	270	+34%
GOS	221	+11%
pFOS	253	+26%
N10	221	+11%
pAGA	238	+18%
Biolin P	228	+13%



Conclusion

- ***S salivarius* grows the most efficiently on preBIULIN ORAL**
- **Inulin is more suitable to support the growth of *S salivarius*, than GOS**

"This document, or any answers or information provided herein by Gobiotics, does not constitute a legally binding obligation of Gobiotics. While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. It does not relieve our customers from the obligation to perform a full inspection of the products upon delivery or any other obligation."

No warranties of any kind, either express or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding product described or design, data or information set forth, or that the product, design, data or information may be used without infringing the intellectual property rights of others. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale."

GOBIOTICS BV Jac Jansenweg 7 4631 SL Hoogerheide The Netherlands Tel: +31/(0)164 72 80 01
www.gobiotics-ingredients.com