

Synergistic synbiotics: The future of early life nutrition is here

Probiotics and HMOs together unlock a new opportunity to optimize infant health

At dsm-firmenich, our purpose is to bring the best start in life for all infants. In partnership with Lallemand Health Solutions, pioneers in probiotic research, we have developed groundbreaking synergistic synbiotic solutions that combine our GlyCare™ HMOs with Lallemand's Expert'Biotic probiotic baby strains.

With promising research showing that HMOs can selectively promote specific probiotic strains to improve health outcomes for infants, our new synbiotic solutions harness this synergistic combination to help bring the composition and functionality of infant formula closer to that of breast milk – the gold standard for infant nutrition.

How the gut microbiome in infants sets the stage for health across life

The first three years of life are a critical window for microbiome development, laying the foundation for lifelong health.

As the infant moves on to solid foods, the microbiome adapts and diversifies to support the developing immune system, brain function and overall well-being.

By age three, the microbiome stabilizes, resembling that of an adult.

Natural delivery and breastfeeding first expose infants to beneficial bacteria. However, C-section, use of perinatal antibiotics, and/or lack of breastfeeding may result in different gut microbiota colonization patterns.

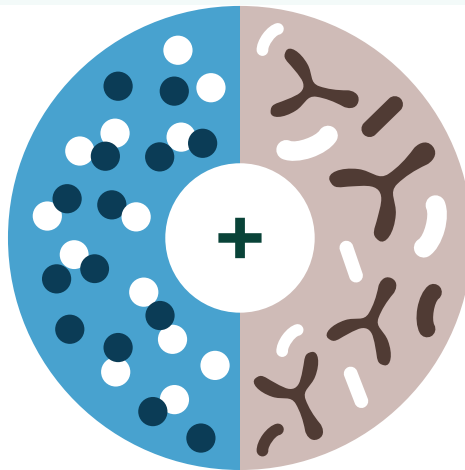
The most dramatic changes occur by the first year, meaning early life colonization may have lifelong health implications.



How do HMOs and probiotics support infant development?

HMOs support the development of a healthy microbiome by:*

- ✓ Promoting the growth of beneficial bacteria in the infant gut
- ✓ Supporting the developing immune system
- ✓ Acting as a decoy against harmful microbes in the infant gut
- ✓ Being the third-largest solid component found in human milk, with over 200 structures identified



Probiotics contribute to the foundation of lifelong health by:*

- ✓ Colonizing the infant microbiome and supporting healthy growth and development
- ✓ Strengthening gut barrier function against pathogens
- ✓ Aiding in the development of the baby's immune system
- ✓ Supporting the developing gut-brain axis

Combined, they make synergistic synbiotics: a game-changing solution defined by the International Scientific Association for Probiotics and Prebiotics (ISAAP), as "a synbiotic in which the substrate is designed to be selectively utilized by the co-administered microorganism(s)" where components comprising the synergistic synbiotic work together to bring about resulting health benefits.

These synergistic synbiotics provide unique benefits for infant health and development.



Immune health

Support development of the infant immune system and anti-pathogen function



Gut health

Shape infant microbiome composition closer to that of breast-fed infants



Gut-Brain Axis

Support the development of gut-brain axis for cognitive and behavioral outcomes



Healthy growth

Establish the microbiome for optimal infant development trajectories

Partner with dsm-firmenich to give infants the best start in life

Join us in our mission to set a new standard for synbiotics in early life nutrition. Together, we can ensure that all infants have access to the essential nutrients they need for optimal growth, health and development. Connect with an expert to discover more about our cutting-edge synbiotic solutions and how we're pushing the boundaries of innovation in early life nutrition.



www.dsm-firmenich.com

dsm-firmenich

*to read the scientific literature that support these findings, please see www.dsm.com/human-nutrition/en/products/synbiotics

This publication does not constitute or provide scientific or medical advice, diagnosis, or treatment. This information is based on dsm-firmenich's current knowledge and only contains scientific and technical information for business to business use. dsm-firmenich makes no representation or warranty of the accuracy, reliability, or completeness of the information and as to results to be obtained. Use of this information shall be at your discretion and risk. It does not relieve you of your obligation to comply with all applicable laws and regulations and to observe all third party rights. Nothing herein relieves you from carrying out your own suitability determinations and tests including the stability testing of the finished product. Country or region-specific information should also be considered when labelling or advertising to final consumers. The content of this document is subject to change without further notice. All trademarks listed in this brochure are either registered trademarks or trademarks of dsm-firmenich in Switzerland and/or other countries.

© 2024 dsm-firmenich