Prolacta® BIOSCIENCE
Advancing the Science of Human Milk

~200
Human Milk Oligosaccharides

100%
Human Milk–Based Nutrition

0
Substitutes*

A Wide Spectrum of HMOs

from Prolacta Bioscience

- Human milk oligosaccharides (HMOs), a family of approximately 200 structurally diverse sugars, can only be found in and sourced from human milk.[1]
- HMOs are more abundant than protein in human milk and are the third-most-abundant component, following lactose and lipids.[2]
- The immunity, prebiotic, and gut maturation benefits that HMOs promote may have a role in the health outcomes attributed to an exclusive human milk diet (EHMD), of which Prolacta's neonatal nutritional products are a part.[1]
- Prolacta's 100% human milk-based neonatal nutritional products are the FIRST and ONLY to contain a wide spectrum of mother-made HMOs.[3]

Human milk oligosaccharides (HMOs) provide numerous health benefits to preterm infants.

Healthy gut

Support growth of beneficial bacteria and limit growth of harmful bacteria[4]

Improve intestinal epithelial barrier function[5]

Immune support

Support maturation and regulation of the immune system[5]

Brain development

May function as a supplementary source of sialic acid for brain development[6]

Prolacta Bioscience products provide a clear advantage that is missing from cow milk–based nutrition: a wide spectrum of HMOs.

While some cow milk–based formulas advertise the inclusion of 1 or 2 oligosaccharides, they are synthetic. All Prolacta Bioscience's clinically proven, high-quality neonatal nutritional products are 100% human milk–based and contain a wide spectrum of HMOs.[3] This broad range of HMOs results from using:

- Large pools of donor milk from hundreds of women as the basis for Prolacta Bioscience products
- Industry-leading production practices unique to Prolacta Bioscience

*"*Given the sheer diversity of HMOs naturally present in human milk, it is inconceivable that 1 or 2 synthetic homologs of HMOs added to infant formula could mimic the multitude of benefits ascribed to naturally occurring and evolutionarily selected HMOs."*

Dr. Victoria Niklas
Vice President of Innovation
and Medical Communication
Prolacta Bioscience

Interested in learning more about supporting your preterm patients with an exclusive human milk diet containing a wide spectrum of HMOs?

Call 1-888-PROLACT (1-888-776-5228) or visit www.Prolacta.com/HMOs

1. Moukarzel S, Bode L. Human milk oligosaccharides and the preterm infant: a journey in sickness and in health. *Clin Perinatol.* 2017;44(1):193-207. doi:10.1016/j.clp.2016.11.014
2. Plaza-Díaz J, Fontana L, Gil A. Human milk oligosaccharides and immune system development. *Nutrients.* 2018;10:1038. doi:10.3390/nu10081038
3. Barile D, Lebrilla CB, German B, Rechtman DJ, Lee ML. Oligosaccharide prebiotics present in a breast milk based human milk fortifier. Presented at Hot Topics in Neonatology. Washington DC December 2008
4. Cilieborg MS, Bering SB, Østergaard MV, et al. Minimal short-term effect of dietary 2'-fucosyllactose on bacterial colonisation, intestinal function and necrotising enterocolitis in preterm pigs. *Brit J Nutr.* 2016;116(5):834-841. doi:10.1017/S0007114516002646
5. Donovan SM, Comstock SS. Human milk oligosaccharides influence neonatal mucosal and systemic immunity. *Ann Nutr Metab.* 2016;69:41-51. doi:10.1159/000452818
6. Ruhaak LR, Stroble C, Underwood MA, Lebrilla CB. Detection of milk oligosaccharides in plasma of infants. *Anal Bioanal Chem.* 2014;406(24):5775-5784. doi:10.1007/s00216-014-8025-z

Prolacta® BIOSCIENCE
Advancing the Science of Human Milk

MKT-0605 Rev-0 08/19