General publications on HMOs and breast milk

Hennet, T., et al. (2014) Swiss Med Weekly Feb 19;144

Preclinical safety studies


Human breast milk: A review on its composition and bioactivity

Human milk oligosaccharides: every baby needs a sugar mama

Oligosaccharides in human milk during different phases of lactation

Direct evidence for the presence of human milk oligosaccharides in the circulation of breastfed infants

Breastfed at Tiffany’s

Decoding breast milk oligosaccharides

Human milk oligosaccharides and their potential benefits for the breast-fed neonate

Historical aspects of human milk oligosaccharides

Glycobiology of human milk

Milk oligosaccharides and metabolism in infants

Systematic review of the concentrations of oligosaccharides in human milk

The predominance of type I oligosaccharides is a feature specific to human breast milk

Pre-clinical safety evaluation of the synthetic human milk, nature-identical, oligosaccharide 2′-O-Fucosyllactose (2′FL).

Pre-clinical safety assessment of the synthetic human milk, nature-identical, oligosaccharide Lacto-N-neotetraose (LNnT).

A 3-week pre-clinical study of 2′-fucosyllactose in farm piglets.
Clinical studies

Oct;116(8):1356-1368

Oral supplementation of healthy adults with 2'-O-fucosyllactose and lacto-N-neotetraose is well tolerated and shifts the intestinal microbiota.


Similar to Those Who Are Breastfed, Infants Fed a Formula Containing 2'-Fucosyllactose Have Lower Inflammatory Cytokines in a Randomized Controlled trial


Infants Fed a Lower Calorie Formula With 2'FL Show Growth and 2'FL Uptake Like Breast-Fed Infants.


Effects of Infant Formula With Human Milk Oligosaccharides on Growth and Morbidity: A Randomized Multicenter Trial.

Application and mechanism focussed publications

Oct 2;8(10):

Fucosylated but not sialylated milk oligosaccharides diminish colon motor contractions

Bode, L., (2012)  
Glycobiology, Sep;22(9):1147-62

Human milk oligosaccharides: every baby needs a sugar mama


The functional biology of human milk oligosaccharides.


Paediatrics: Are human milk oligosaccharides the magic bullet for necrotizing enterocolitis?


The Human Milk Glycome as a Defense Against Infectious Diseases: Rationale, Challenges, and Opportunities.


Human Milk Oligosaccharides: Potent Weapons in the Battle against Rotavirus Infection.


Prebiotic milk oligosaccharides prevent development of obese phenotype, impairment of gut permeability, and microbial dysbiosis in high fat-fed mice.


Human Milk Components Modulate Toll-Like Receptor-Mediated Inflammation.


Human milk oligosaccharides: the novel modulator of intestinal microbiota.
Human milk oligosaccharides: The role in the fine-tuning of innate immune responses.

Oral supplementation of 2'-fucosyllactose during lactation improves memory and learning in rats.

The impact of the milk glycobiome on the neonate gut microbiota.

Human milk oligosaccharides and development of cow's milk allergy in infants.

Human milk oligosaccharide consumption by probiotic and human-associated bifidobacteria and lactobacilli.

Dietary 2'-Fucosyllactose Enhances Operant Conditioning and Long-Term Potentiation via Gut-Brain Communication through the Vagus Nerve in Rodents.