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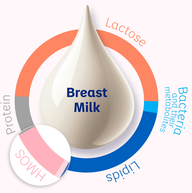
A COMBINATION OF OLIGOSACCHARIDES DESIGNED TO CLOSELY MIMIC HUMAN MILK OLIGOSACCHARIDES (HMOS) IN BREAST MILK

HMOS ARE A DIVERSE POOL OF PREBIOTIC OLIGOSACCHARIDES[1]

Prebiotics are non-digestible carbohydrate structures selectively utilized by host microorganisms conferring a health benefit to the host (ISAPP[1]); also known as food for 'good bacteria'.

QUANTITY

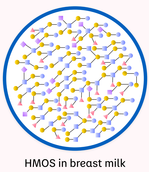
HMOS are 3rd largest components in breast milk[2]



HMOS are complex carbohydrates and present in a total quantity of ~12 -15 g/L (in mature milk)[2,3]

DIVERSITY

More than 1000 different HMOS in breast milk, of which >200 have been structurally identified[4-6]



HMOS in breast milk

HMOS are present in short chain (sc) and long chain (lc) oligosaccharides in a 9:1 ratio[7,8]

For illustrative purposes only. Schematic representation of HMOS in breast milk.

FUNCTIONALITY

Functional benefits have been demonstrated for the diverse pool HMOS:

- **Microbiota development**[9-11]
- **Healthy stool characteristics**[12]
- **Immune benefits**[10,13,14]
- **Brain building blocks**[10,15]

PREBIOTIC MIXTURE scGOS/lcFOS (9:1)* WAS INTRODUCED IN 2002

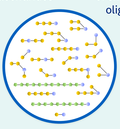
SCGOS/LCFOS (9:1) WAS CREATED TO HELP TO MIMIC THE QUANTITY, DIVERSITY AND FUNCTIONALITY OF THE DIVERSE POOL OF HMOS IN BREAST MILK[7,8,16]

Over **40** clinical studies[17]

QUANTITY + DIVERSITY

High quantity of oligosaccharides[8]

More than 100 structures of short and long chain oligosaccharides[7,8]



scGOS/lcFOS (9:1)

FUNCTIONALITY

scGOS/lcFOS (9:1) has been shown to support a healthy gut and immune system development by:

- **Stimulating growth of beneficial bacteria**[18,19]
- **Stool softening closer to that of healthy breastfed infants**[10,18]
- **Suppressing growth of pathogens**[19,20]
- **Reducing the risk of infections**[21-24]

For illustrative purposes only. Schematic representation of scGOS/lcFOS (9:1).

*short-chain galacto-oligosaccharides (scGOS)/long-chain fructo-oligosaccharides (lcFOS) (9:1).

SINCE 2014, IDENTICAL HMO STRUCTURES HAVE BECOME AVAILABLE TO BE SUPPLEMENTED TO INFANT FEED[25]

The number of commercially available HMO structures is increasing. However, it is not yet possible to mimic the diverse and complex pool of HMOS in breast milk[25].

Short chain HMOs

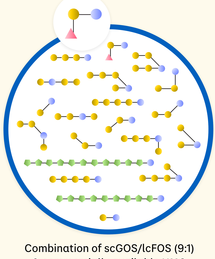
Although HMOs have been demonstrated to be safe[26], further research on their functionality is needed.

For illustrative purposes only. Schematic representation of commercially available HMOs.

The prebiotic mixture scGOS/lcFOS (9:1)

- **ADDED TO INFANT FEED SINCE 2002**
- **CLINICALLY PROVEN**[17]
- **RECOGNIZED BY EXPERTS**[2,25]

THE DIVERSITY OF THE TOTAL POOL OF OLIGOSACCHARIDES EXTENDS EVEN FURTHER BY COMBINING HMOs & scGOS/lcFOS (9:1)



Combination of scGOS/lcFOS (9:1) & commercially available HMO

For illustrative purposes only. Schematic representation of scGOS/lcFOS (9:1) and commercially available HMO (2'-FL).

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