Where Are HMOs Found?

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Scientific Overview

Human milk is a complex mixture of nutrients, enzymes, hormones, antibodies, immune cells, commensal organisms, and other bioactive molecules.¹,²

Human milk oligosaccharides (HMOs) are the most abundant solid component in breast milk after lactose and fat. Approximately 10% of human milk macronutrients are made up of HMOs.³

Nutrient Breakdown of Human Milk

<table>
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<tr>
<th>Macronutrients</th>
<th>Lactose</th>
<th>Lipids</th>
<th>Proteins</th>
<th>HMOs</th>
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<tbody>
<tr>
<td>Water</td>
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<td>HUMAN MILK</td>
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MACRONUTRIENTS IN HUMAN MILK

HMOs in Human Milk

- 2'-Fucosyllactose (2'-FL)³
- Sialyllacto-N-tetraose
- Lactodifucotetraose
- 3'-and 6'-Sialyllactose
- 3-Fucosyllactose
- Lacto-N-(Neo) tetraose
- Lacto-N-fucopentaose

*Concentration of 2'-FL in human milk varies

Latest Science of HMOs

HMOs are important immune supporting ingredients.⁴ There are about 20 major human milk oligosaccharides in human milk.³ Of the ~20 major HMOs in breast milk,³ a specific HMO called 2'-fucosyllactose or 2'-FL is the most abundant HMO in a majority of mothers’ milk.⁵ 2'-FL has been extensively studied and emerging research suggests it is the most bioactive and multi-functional HMO.⁶,⁷,⁸ Until now only breastfed babies could benefit from HMOs.

Key Takeaways

1. 2'-FL is the most abundant HMO in breast milk.³
2. 2'-FL is the only HMO that has been clinically proven to strengthen the developing immune system of infants fed formula to be more like breastfed babies.⁹
3. A 15-year scientific breakthrough now makes it possible to add the HMO found in most mothers’ milk, 2'-FL HMO,⁵ to infant formula.¹⁰ Not all infant formulas contain HMOs—ensure your patients are receiving an infant formula containing HMOs.

References:

www.PediatricNutritionAdvocate.org