

Antimicrobial Effects of HMOs

(Human Milk Oligosaccharides)



HMOs prevent pathogen adhesion in the gut^{1,2}

HMOs assist in gut barrier function^{1,2}

HMOs act as **soluble decoy receptors** that compete for **pathogen binding** against the gut mucosa¹

HMOs can **directly interact with intestinal epithelial cells** and modulate their glycan expression^{1,5}

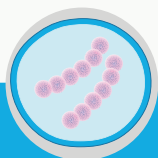
Fucosylated **HMOs**, resemble **glycans on the mucosa cell surface** to which pathogens adhere^{1,3}

HMOs may have **immunomodulatory effects** and may **reduce pathogen adhesion** at the entry into the upper respiratory tract⁴

HMOs modulate **glycan expression** that acts as an alternative mechanism to prevent pathogen attachment to intestinal cells, thereby **strengthening the gut barrier function**^{1,3-5}



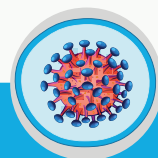
HMOs may curb the growth of potentially pathogenic strains of Enterobacteriaceae, Escherichia coli and Clostridia^{1,6-7}



HMOs possess **antiadhesive, antimicrobial and antibiofilm activity** against **Group B Streptococcus**⁷⁻¹⁰



HMOs may have a role in **modulating neonatal rotavirus infections**¹¹⁻¹²



HMOs might function as a **broadly reactive antiviral agent** against several **norovirus genogroups**¹³

HMO, human milk oligosaccharide.

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