## Nutraceuticals of Chemical Synthesis: Special Glycans as Prebiotics for the Holobiont

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Abstract: Introduction: Herbal remedies express the idea of natural products used as pharmacotherapy or supplementation in case of need. Whether they are obtained directly by plants or synthesised chemically, prebiotics are considered nutraceuticals of natural origin, i.e., products made available for health reasons and self-medication. Methods: A literature review has been performed by screening manuscripts with prebiotics as herbal nutraceuticals (including chemically synthesized compounds, such as human milk oligosaccharides [HMO]) and evaluating the chemical structure of fibers in diverse food sources (principally herbals). Results: An examination of recent literature led to the fundamental concept of the holobiont as key in understanding the importance of prebiotics for the nonhost part of the metaorganism (microbiota) called a human being. This multispecies entity requires prebiotic fibers to avoid a state of disequilibrium (dysbiosis) that fosters diseases. Conclusions: Numerous human-derived glycans (special oligosaccharides that mimic in structure and function not only blood type antigens but also herbal fibers) have been identified as essential for the maintenance of the equilibrium (eubiosis) within the human holobiont in the modern age. These products are planned to be used not just as additions to baby milk formulas but as food supplements for the health of adults. In the context of alternative medicine, human-derived glycan-based supplements may represent the next step on the road to complete well-being.

Keywords: glycans, herbal remedy, prebiotics, food supplement

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