

HMO Profile by Ion Exchange Chromatography

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Abstract

Human milk oligosaccharides (HMOs) are a complex category of glycans present in high abundance in human milk, with its concentration and composition closely associated with infant health. This presentation will give an overview of test method determining HMOs in Abbott nutritional products fortified with HMOs ingredients. In this method, 6 HMOs (3-FL, 2'-FL, LNnT, LNT, 6'-SL, 3'-SL) are analyzed by Ion Exchange Chromatography via high performance anion-exchange coupled with pulsed amperometric detection (HPAEC/PAD).

The HPAEC/PAD Dionex ICS5000 system was equipped with a triple pulsed electrochemical cell (ED) with a pH reference electrode (Ag/AgCl) and a gold working electrode. Chromatographic separation is achieved using a PA-1 analytical column.

Ready-to-Feed products are analyzed “as-is” and powders are reconstituted to ready to feed basis. Fructanase and amyloglucosidase hydrolyses are included to remove interferences from other saccharides.