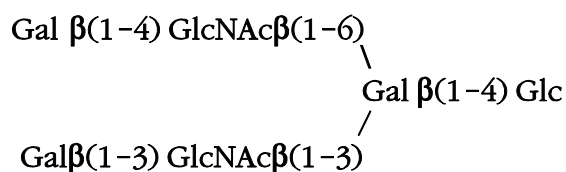


CERTIFICATE OF ANALYSIS

PRODUCT NAME:	GLYKO [®] LACTO-N-HEXAPOSE O-GLYCAN (LNH)
PRODUCT CODE:	GKAD-00523
LOT NUMBER:	DP08G2402
PACK SIZE:	500 µg (qualitative standard for glycan identification)
PURITY:	≥90% of glycan by HPLC
FORM:	Dry solid
STORAGE:	Store at -20°C before and after reconstitution
EXPIRATION:	May 2018, may be used for 1 year after reconstitution (extended from prior exp. date based on re-assay)
RE-ASSAY DATE:	May 2013

STRUCTURE:



QUALITY CONTROL:

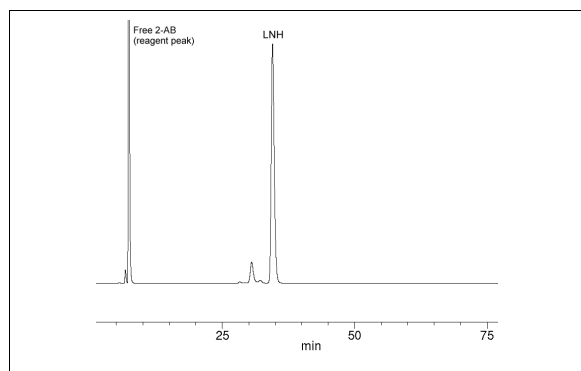


Figure 1 - HPLC of 2-AB labeled LNH

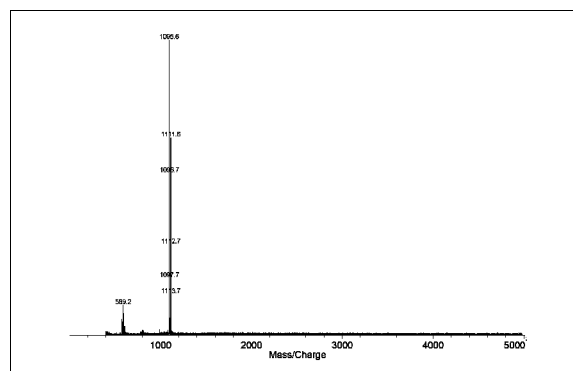


Figure 2 - MALDI-TOF of LNH [M + Na]⁺

Molecular Weight: 1073 (average)¹

Isolation: LNH O-linked oligosaccharide is typically found in human milk² and also can be chemically synthesized. Isolation and purification is achieved through a combination of chromatography techniques.

Structural Analysis: The purity and structural integrity of the glycan is assessed by one or more of the following techniques: HPLC³, mass spectrometry^{4,5}, ¹H-NMR⁶ and HPAE-PAD⁷.

Applications:

- qualitative standard for various analytical procedures
- radio-labeling, fluorescent-labeling or formation of a variety of oligosaccharide derivatives
- substrate for glycosidase and glycosyl transferase assays

Handling: The oligosaccharide is shipped as a dried solid. Allow the unopened vial to reach ambient temperature and tap on a solid surface to ensure that most of the material is at the bottom of the vial. Gently remove the cap, add the desired volume of water or buffer, re-cap and mix thoroughly to redissolve all the oligosaccharide. For maximal recovery, ensure that the cap lining is also rinsed, and centrifuge the reconstituted vial briefly before use.

Make sure that any glassware, plasticware, solvents or reagents which come into contact with the glycan are free of glycosidases and carbohydrate contaminants.

Minimize exposure to elevated temperatures or extremes of pH. High pH will cause epimerization of the reducing terminal GlcNAc.

Reconstitution: Use HPLC-grade water or an aqueous buffer to dissolve the glycan. Store the reconstituted glycan at -20°C in working aliquots. Avoid multiple freeze/thaw cycles.

REFERENCES

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Authorized Signature