

Molecular Weight: 1787.7 (average)¹

Isolation: NA2F complex-type N-linked oligosaccharide is typically released from a glycoprotein using N-Glycanase[®] or anhydrous hydrazine⁷, separated from peptide material by adsorption chromatography, then purified further using a combination of high pressure liquid chromatography (HPLC) and glycosidase digestion.

Structural Analysis: The purity and structural integrity of the glycan is assessed by one or more of the following techniques: HPLC², mass spectrometry^{3,4}, ¹H-NMR⁵ and HPAE-PAD⁶.

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

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

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 terminus GlcNAc.

REFERENCES

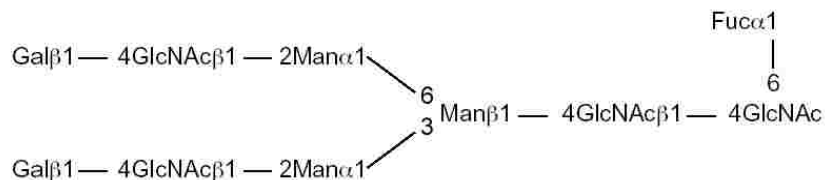
1. Average molecular weight was calculated using ExPASy (<http://us.expasy.org/tools/glycomod/glycanmass.html>)
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N-Glycanase[®] is a registered trademark of Genzyme Corporation, Boston, MA, USA. Recombinant N-Glycanase is covered by US Patent No 5,238,821.

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CERTIFICATE OF ANALYSIS

PRODUCT NAME: GLYKO[®] ASIALO, GALACTOSYLATED, BIANENNARY COMPLEX N-GLYCAN, CORE-SUBSTITUTED WITH FUCOSE (NA2F)
PRODUCT CODE: GKC-024301
LOT NUMBER: P03G2801
PACK SIZE: 10 µg
PURITY: > 90% (Specification: ≥90%)
FORM: Dried by centrifugal evaporation from aqueous solution.
STORAGE: Store at -20°C before and after reconstitution
EXPIRATION: July 08, may be used for 1 year after reconstitution
STRUCTURE:



QUALITY CONTROL:

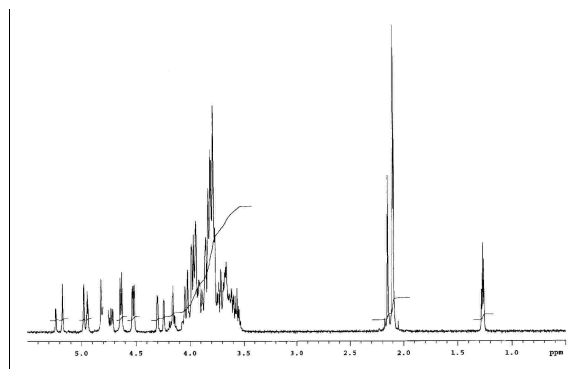


Figure 1 - One-dimensional Spectrum ¹H-NMR

Molecular Weight: 1787.6503 (average)¹

Isolation: NA2F complex-type N-linked oligosaccharide is typically released from porcine thyroglobulin² using N-Glycanase[®] or anhydrous hydrazine³, separated from peptide material by adsorption chromatography, then purified further using a combination of high pressure liquid chromatography (HPLC) and glycosidase digestion.

Structural analysis: The purity and structural integrity of the glycan is assessed by ¹H-NMR and HPLC.

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

Reconstitution: Use pure water or an aqueous buffer for dissolution of the glycan.

Handling: The oligosaccharide is shipped as a dried solid. Allow the unopened vial to reach ambient temperature and tap unopened 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 reconstitution medium, re-cap and mix thoroughly to bring all the oligosaccharide into solution. For maximal recovery, ensure that the cap lining is also rinsed and centrifuge the reconstituted vial briefly before use.

Ensure that any glass, plasticware or solvents used are free of glycosidases and environmental carbohydrates.

Minimize exposure to elevated temperatures or extremes of pH; high temperatures or low pH will cause desialylation. High pH will cause epimerization of the reducing terminus GlcNAc.

REFERENCES

1. Average molecular weight was calculated using ExPASy (<http://us.expasy.org/tools/glycomed/glycanmass.html>)
2. Yamamoto, K. *et al.* **J Biochem** **195**, 701 (1981).
3. Takasaki, S. *et al.* **Meth Enzymol** **83**, 263 (1982).
4. Vliegthart, J. *et al.* **Adv Carb Chem & Biochem** **41**, 84 (1983).
5. Kobata, A. *et al.* **Methods Enzymol** **138**, 84 (1987).
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