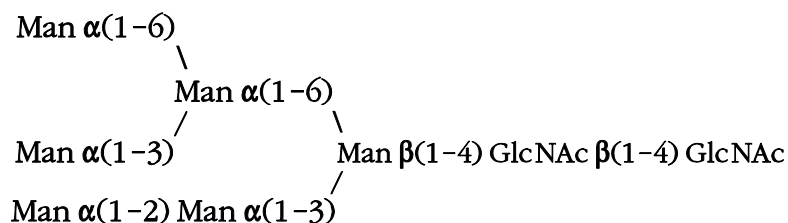


CERTIFICATE OF ANALYSIS

PRODUCT NAME: GLYKO® OLIGOMANNOSE 6 N-GLYCAN (MAN-6)
PRODUCT CODE: GKM-002600
LOT NUMBER: DP13G1801
PACK SIZE: 10 µg
PURITY: ≥90% of glycan by HPLC
FORM: Dry solid
STORAGE: Store at -20°C before and after reconstitution
EXPIRATION: August 2018

STRUCTURE:



QUALITY CONTROL:

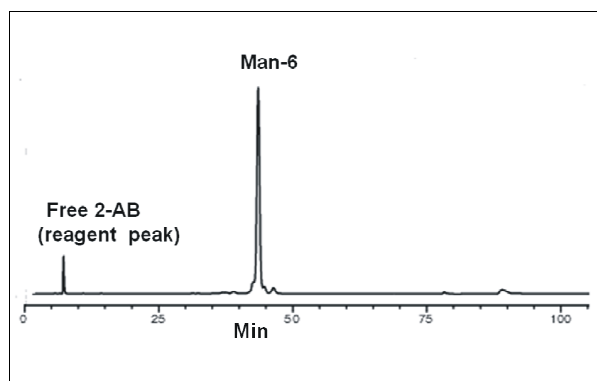


Figure 1 - HPLC of 2-AB labeled Man-6

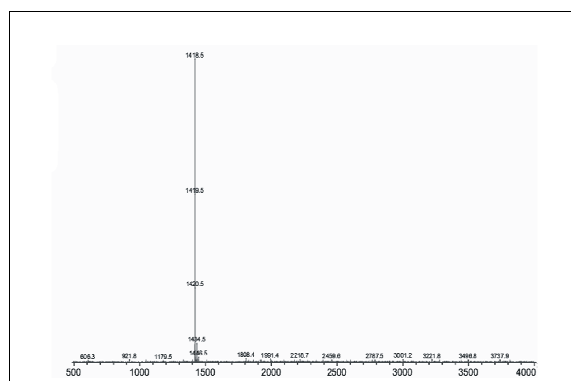


Figure 2 - MALDI-TOF mass spec of Man-6 [M - H]⁺

Molecular Weight: 1397.3 (average)¹

Isolation: Man-6 oligomannose-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 chromatographic techniques.

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 temperatures or low pH may cause degradation. High pH will cause epimerization of the reducing terminal GlcNAc.

REFERENCES

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7. Takasaki S, Mizouchi T, Kobata A. Hydrazinolysis of asparagine-linked sugar chains to produce free oligosaccharides. *Meth Enzymol* 1982;83:263-268.

Authorized Signature