CERTIFICATE OF ANALYSIS

PRODUCT NAME:	GLYKO® 6'-SIALYLLACTOSE O-GLYCAN (6'-SL)
PRODUCT CODE:	GKAD-02013
LOT NUMBER:	DP12K1001
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:	November 2017, may be used for 1 year after reconstitution

STRUCTURE:

NeuAc α(2-6) Gal β(1-4) Glc

QUALITY CONTROL:

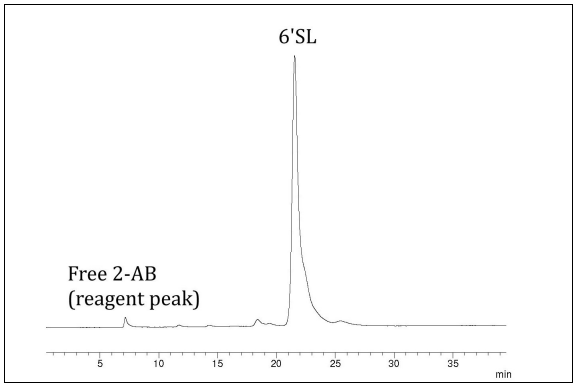

Figure 1 - **HPLC results**: 6'-SL labeled according to the Signal™ 2-AB Labeling Kit (GKK-404) and analyzed on a GlycoSep™ N column (GKI-4728) in ammonium formate/acetonitrile.

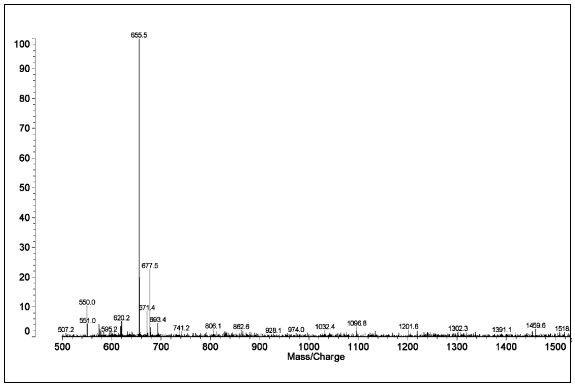

Figure 2 - MALDI-TOF of 6'-SL $[M + Na]^+$

3832 Bay Center Place
Hayward, CA 94545-3619

TOLL FREE (800) 457-9444
PHONE (510) 638-6900
FAX (510) 638-6919

E-MAIL info@prozyme.com
WEB www.prozyme.com

Molecular Weight: 633.6 free acid (average[1])

Isolation: 6'-SL sialylated O-linked oligosaccharide is typically found in human milk and urine[2] and also can be chemically synthesized. Isolation and purification is achieved through a combination of charcoal adsorption, gel filtration and reverse phase chromatography.

Structural Analysis: The purity and structural integrity of the glycan is assessed by one or more of the following techniques: HPLC[3], mass spectrometry[4,5], FACE[6], ^{1}H-NMR[7] and HPAE-PAD[8].

Applications:

- qualitative standard for various analytical procedures
- radio-labeling, fluorescent-labeling or formation of a variety of oligosaccharide derivatives
- substrate for glycosidase and glycosylltransferase assays
- establishing the specificity of lectins and monoclonal antibodies

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 will cause desialylation. High pH will cause epimerization of the reducing terminal glucose.

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

REFERENCES

1. Average molecular weight was calculated using ExPASy (http://us.expasy.org/tools/glycomod/glycanmass.html)

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3. Guile, G. R., Rudd, P. M., Wing, D. R., Prime, S. B. and R. A. Dwek. A rapid and high-resolution high-performance liquid chromatographic method for separating glycan mixtures and analyzing oligosaccharide profiles. **Anal Biochem 240**: 210-226 (1996).

4. James, D.C. and N. Jenkins. Analysis of N-glycans by matrix-assisted laser desorption/ionization mass spectrometry; in **A laboratory guide to glycoconjugate analysis. BioMethods 9 (P. Jackson and J.T. Gallagher, ed):** 91-112 (1997).

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Bruce Amsden, Ph.D.
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