# CERTIFICATE OF ANALYSIS

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| PRODUCT NAME: | GLYKO® 6'-SIALYL-N-ACETYLLACTOSAMINE O-GLYCAN (6'-SLN) |
| PRODUCT CODE: | GKAD-01015 |
| LOT NUMBER: | DP08I1901 |
| 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: | July 2018, may be used for 1 year after reconstitution (extended from prior exp. date based on re-assay) |
| RE-ASSAY DATE: | July 2013 |

STRUCTURE:

NeuAc α(2-6) Gal β(1-4) GlcNAc

QUALITY CONTROL:

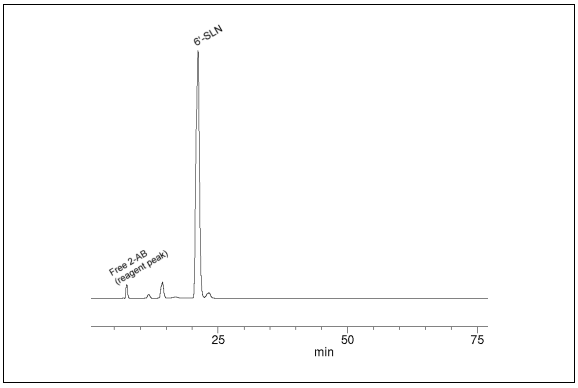


**Figure 1** - HPLC of 2-AB labeled 6'-SLN

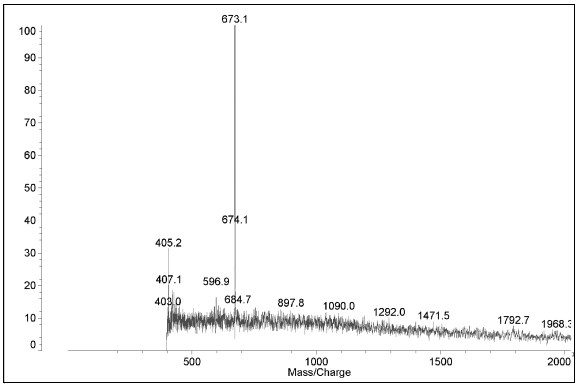


**Figure 2** - MALDI-TOF spectrum of 6'-SLN $[M - H]^-$

**Molecular Weight:**
674.6 (free acid, average)[1]

**Isolation:** 6'-SLN sialylated O-linked oligosaccharide is typically found in human urine[2] 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: HPLC[3], mass spectrometry[4,5], $^1$H-NMR[6] and HPAE-PAD[7].

**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


1. Average molecular weight was calculated using the ExPASy GlycanMass calculator: http://us.expasy.org/tools/glycomod/glycanmass.html
2. Parkkinen, J. & Finne, J. Eur J Biochem 1983:136, 355.
3. Guile GR, Rudd PM, Wing DR, Prime SB, Dwek RA. A rapid and high-resolution high-performance liquid chromatographic method for separating glycan mixtures and analyzing oligosaccharide profiles. Anal Biochem. 1996;240:210-226.
4. James DC and Jenkins N. Analysis of N-glycans by matrix-assisted laser desorption/ionization mass spectrometry. In: Jackson P, Gallagher JT, editors. A laboratory guide to glycoconjugate analysis, BioMethods Vol. 9. Basel: Birkhäuser; 1997. p. 91-112..
5. Papac DI, Wong A and Jones AJS. Analysis of acidic oligosaccharides by matrix-assisted laser desorption/ionization time of flight mass spectrometry. Anal Chem 1996 Sep 15;68(18):3215-3223.
6. Vliegenthart JFG, Dorland L and van Halbeek H. High-resolution, $^1$H-nuclear magnetic resonance spectroscopy as a tool in the structural analysis of carbohydrates related to glycoproteins. Adv Carb Chem Biochem 1983 41: 209-374 (1983).
7. Townsend RR, Hardy MR, Hindsgaul O and Lee YC. High-performance anion-exchange chromatography of oligosaccharides using pellicular resins and pulsed amperometric detection. Anal Biochem 1988 Nov 1;174(2):459-70.


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