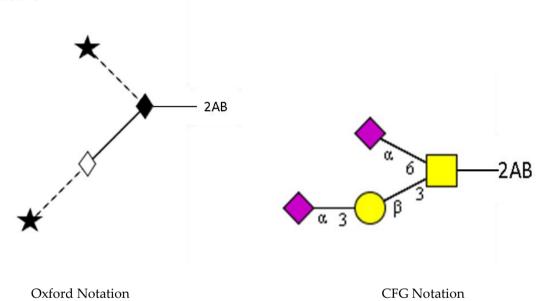


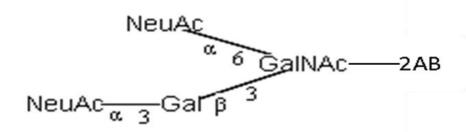
Certificate of Analysis

LudgerPure[™] 2AB Labeled C1S(3,6)2 Glycan

Cat. #: CAB-C1S(3,6)2-01 Batch: B412-02 Size: approx.121.9 pmol

Structure





Text Notation

Purity: 98.85% 2AB labeled C1S(3,6)2 glycan, as assessed by HPLC - see Fig 1.

Amount: Sample vial determined to contain 121.9 pmols C1S(3,6)1 glycan – Test performed 14TH January 2014.



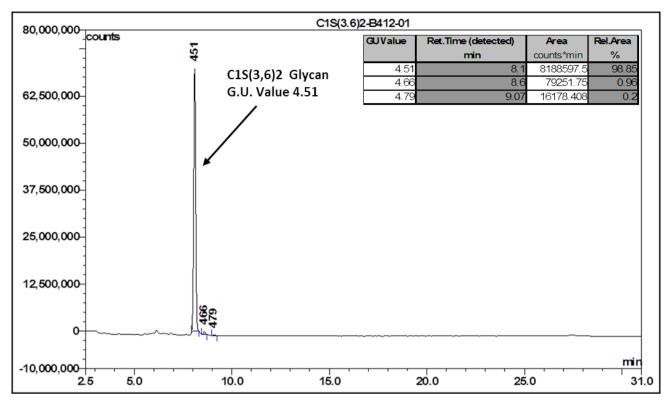


Figure 1: HILIC HPLC profile of 2AB labelled C1S(3,6)2 glycan (see method conditions below) (Cat. #: CAB-C1S(3,6)2-01, Batch B412-02).

^{*} C1S(3,6)2 glycan structure identified by MALDI, MS & HPLC (GU value comparison to GlycoBase). This structure is drawn according to the scheme developed by Oxford-Dublin Glycobiology Laboratory (see Fig 2).



2-AB C1S(3)1 peak seen above, eluted at 8.1 minutes, under the following conditions: HPLC Running Conditions:

Column: Waters BEH Glycan 1.7µm column (150mm)

Flow: 0.56mL/min.

Temperature: 60 °C

Solvent A: 50mM ammonium formate pH 4.4 Solvent B: 100 % acetonitrile

Gradient:

Time	%B
(min)	
0.0	78.0
1.5	78.0
24.8	58.0
25.8	40.0
25.9	78.0
31.0	78.0

<u>Detector:</u> Dionex FLD-3000 <u>Excitation wavelength:</u> 250 nm <u>Emission wavelength:</u> 428 nm

Syn	abol for sugar	Fluorescent label
0	Glc	—2AB 2-aminobenzamide—2AA 2-aminobenzoic acid
	GlcNAc Linkage pos	ition
*	NeuNAc 6 8	
\Diamond	Gal 4	
♦	GalNAc 3 2	Linkage type
♦	Fuc (deoxy galactose)	β-linkage
0	Man	α-linkage ~
Δ	Xylose	بر unknown β-linkage unknown α-linkage

Figure 2: GlycoBase glycan structure key.