



Ludger

Certificate of Analysis

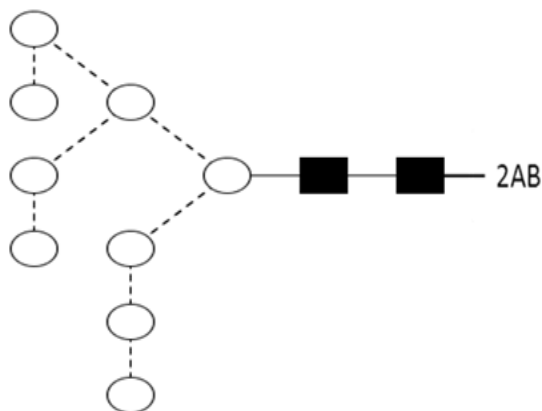
LudgerPure™ 2AB Labeled MAN9 Glycan

Cat. #: CAB-MAN9-01

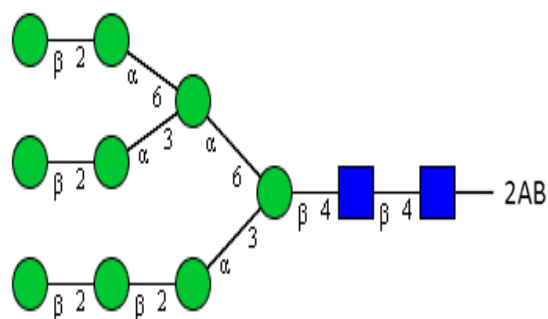
Batch: B38U-03

Size: approx. 100 pmol

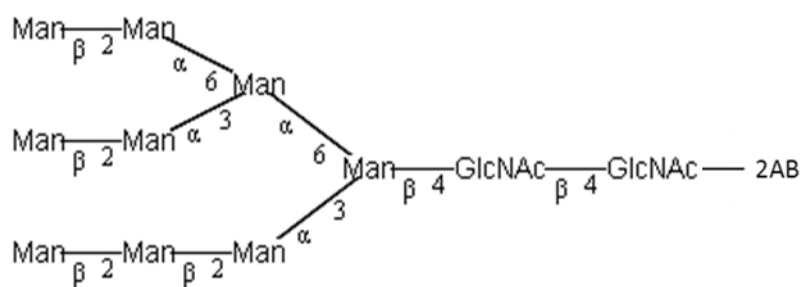
Structure



Oxford Notation



CFG Notation



Text Notation

Purity: 89.5% 2AB labeled MAN9 glycan, as assessed by HPLC - see Fig 1.

Amount: Sample vial determined to contain 108.7 pmols MAN7 glycan – Test performed 02 September 2013.

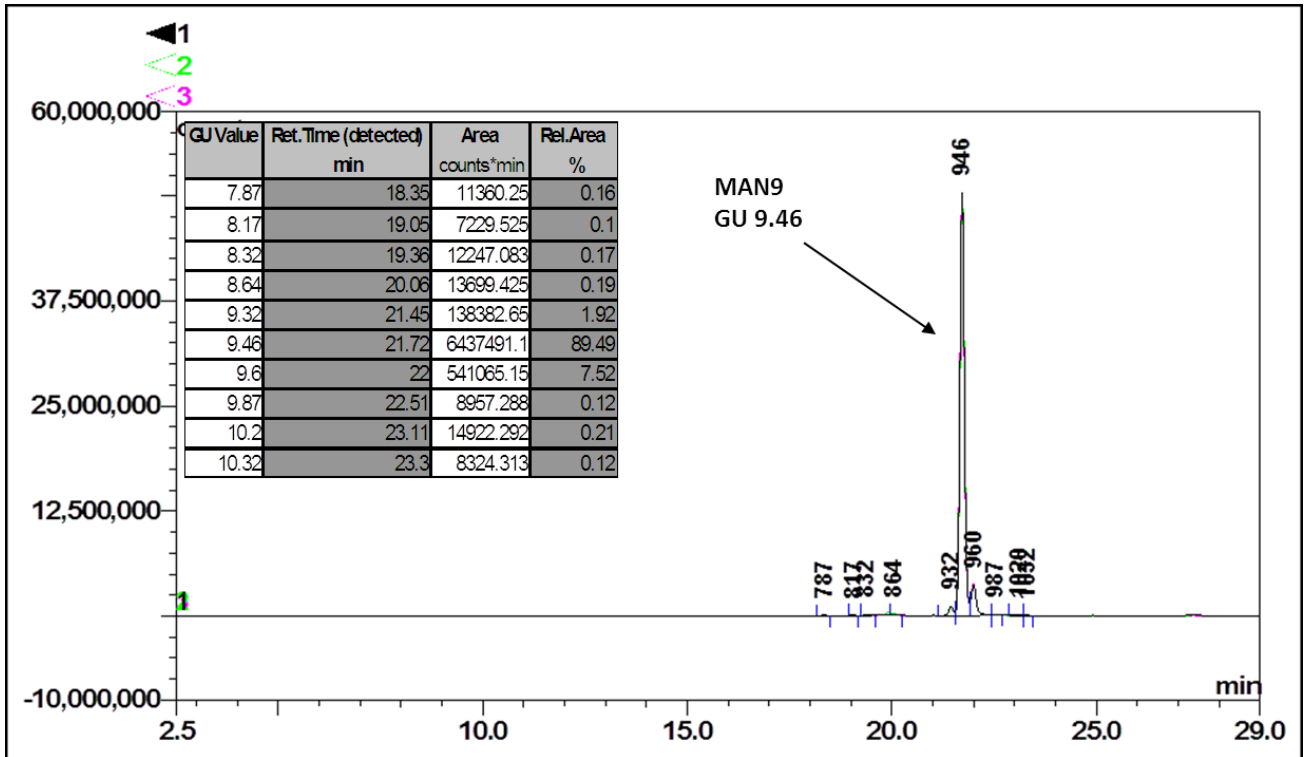


Figure 1: HILIC HPLC profile of 2AB labelled MAN9 glycan (see method conditions below)

(Cat. #: CAB-MAN9-01, Batch B38U-03).

MAN9 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 MAN9 peak seen above, eluted at 21.7 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 (min)	%B
0.0	78.0
1.5	78.0
24.8	58.0
25.8	40.0
25.9	78.0
31.0	78.0

Detector: Dionex FLD-3000

Excitation wavelength: 250 nm

Emission wavelength: 428 nm

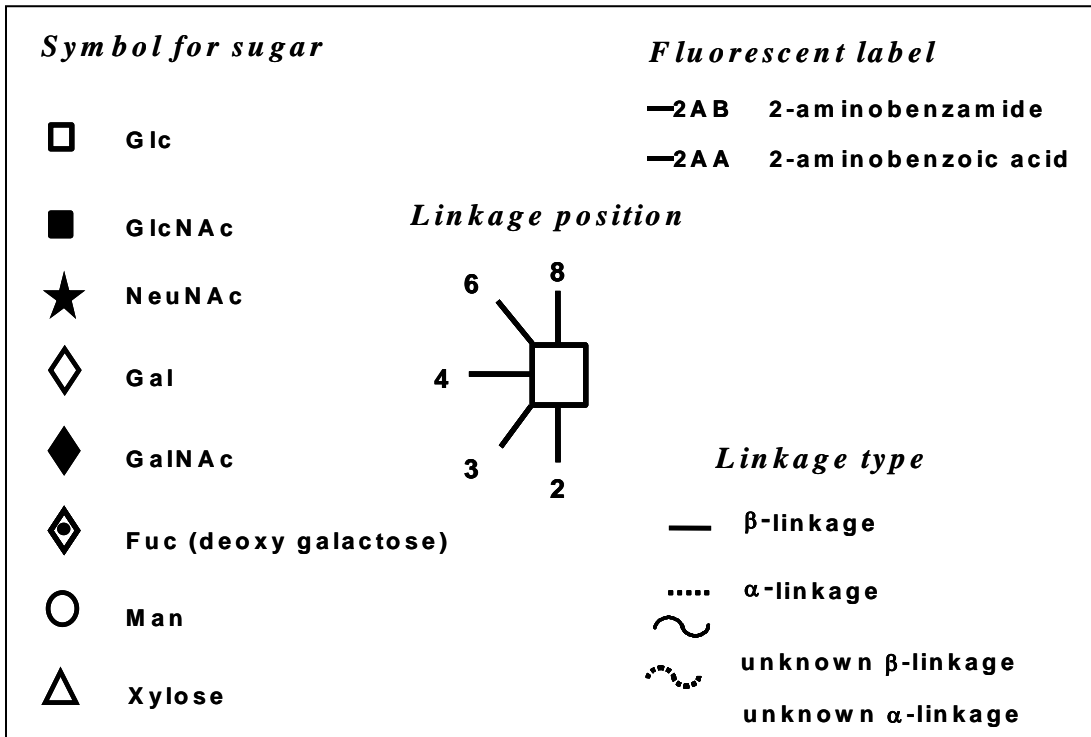


Figure 2: GlycoBase glycan structure key.