Technical Bulletin

2-AA Labeled Dextran Ladder

Catalogue number SMB01376

Product Description

Glycans are associated with numerous biological processes along with their structural and binding properties. However, many glycans are not assigned with any functional aspect. To better understand their roles, glycan profiling is essential.

Use of fluorescent labeled glycan as a standard is one of the preferred methods for profiling glycans by coupling Hydrophilic Interaction Liquid Chromatography (HILIC) with Fluorescent Detector (FD).

2-AA (2-Aminobenzoic acid) Labeled Dextran Ladder offered here enhance the MS analysis by numerous ways.

Key benefits are listed below:

1. Each labeled glycan - Glucose Unit (GU) value increases in an incremental value of its GU thus helping an easy assignment of unknown glycans.
2. Assignment of separated glycans can be done against 2-AA dextran ladder.
3. The observed GU values are between 2 to 30, thus enabling large glycan retention profiling.
4. Elution of glycans in ladder happens with increasing number of glucose units, thus enabling the use on day-to-day analysis in LC.
5. Increased ionization in negative ion mode during MS analysis.
6. Fragmentation of labeled glycan occurs in a predictable manner resulting in abundant ions that can be easily assigned.

Components of 2-AA Labeled Dextran Ladder

*2-AA Labeled Dextran Ladder containing increasing GU units is provided as 200 µg of lyophilized powder.

Precautions and Disclaimer

This product is for R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet (SDS) for information regarding hazards and safe handling practices.

Storage/Stability

Store the sealed vials at 4 °C.

Preparation Instructions

One vial of 2-AA labeled dextran ladder contains 200 µg of lyophilized powder. For reconstitution, the sample can be dissolved in 100 µl of water and 100 µL of acetonitrile for a total dilution of 200 µL. This will result in 1 µg per mL.

Note: Dilution can be adjusted depending on the needs of experiments.

Procedure

LC Conditions:

Column: BIOshell™ Glycan HPLC Column

(150 mm x 2.1 mm x 2.7 µm) 90 Å or Accucore™ Amide-HILIC (150 mm x 2.1 mm x 2.6 µm).

Column oven temperature: 40 °C

Sample temperature: 5 °C

Flow rate: 0.4 mL/min

Eluent A: 100 mM Ammonium formate in water

Eluent B: ACN

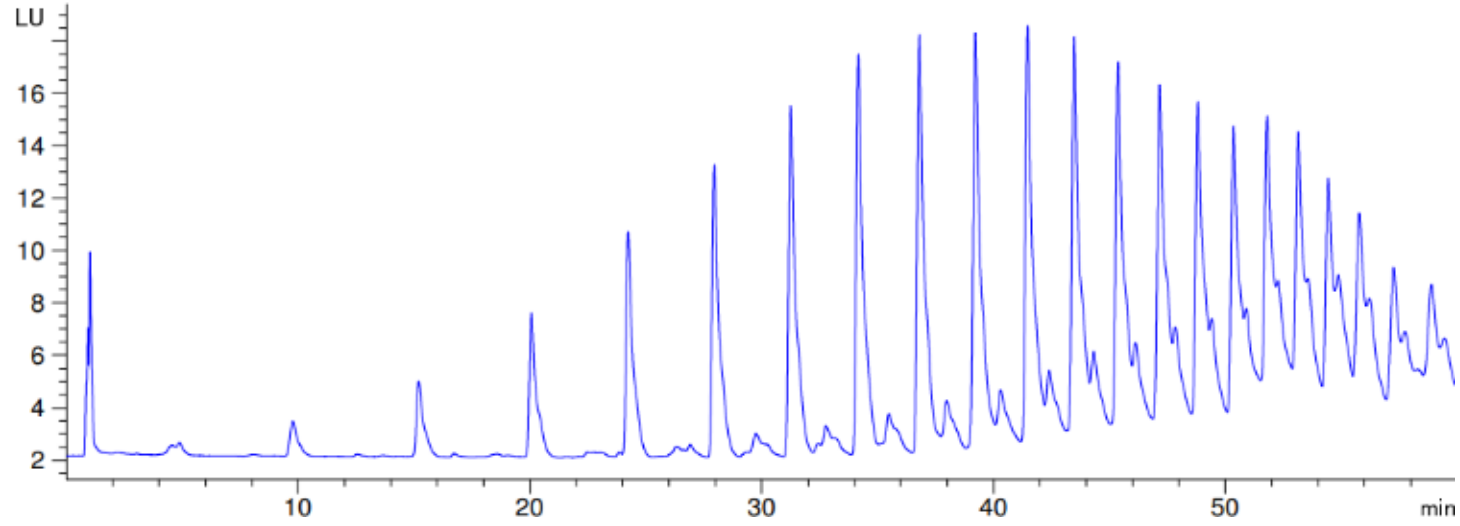
Injection volume: 1 µL (1 µg/mL)

Fluorescence detector: Ex: 320 nm Em: 420 nm

Gradient:

Time (min)	A [%]	B [%]
0	20	80
40	50	50
45	50	50

Figure: A chromatogram showing the fluorescence of dextran ladder with increasing gradient



References

Bigge, J.C., *et al*., Nonselective and Efficient Fluorescent Labelling of Glycans Using 2-Amino Benzamide and Anthranilic Acid.
Anal. *Biochem*., **230 (2)**, 229-238 (1995)

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