



Certificate of Conformity

Ludger Tag™ 2AA Monosaccharide Kit

Cat. #: LT-MONO-96

Batch #: B3BQ-05

Size: 2 sets of components per kit

This kit conforms to the specifications given in Ludger document LT-Mono-Guide.

Each kit contains the following components:

Quantity per Kit	Cat #	Batch #	Component Name	Storage Temp.
2	LT-NAOAC-01	B3AM-10	Sodium Acetate solution	4°C
2	LT-CYANOB-03	B3BF-02	Cyanoborohydride	RT
2	LT-2MTFA-01	B34J-02	2M TFA solution	RT
2	LT-NBM-01	B33B-05	Sodium Acetate Boric Acid solution	4°C
2	LT-2AA-02	B34I-03	2AA dye	RT
2	LT-6MHCL-01	B352-04	6M Hydrochloric Acid	RT
4	CM-MONO-MIX-10	B31L-01	Glycan Standard	-20°C
2	CM-XYL-100	B219-09	Glycan Standard	-20°C

Use within 6 months of purchase

Certificate of Analysis

Monosaccharide Mix

Cat. #: CM-MONO-MIX-10

Batch: B31L-01

Size: 10 nmols

The monosaccharide mix reference standard is a quantitative standard comprised of NIST-F and USP traceable glucosamine (GlcN), galactosamine (GalN), galactose (Gal), mannose (Man), glucose/dextrose (Glc) and fucose (Fuc) monosaccharides.

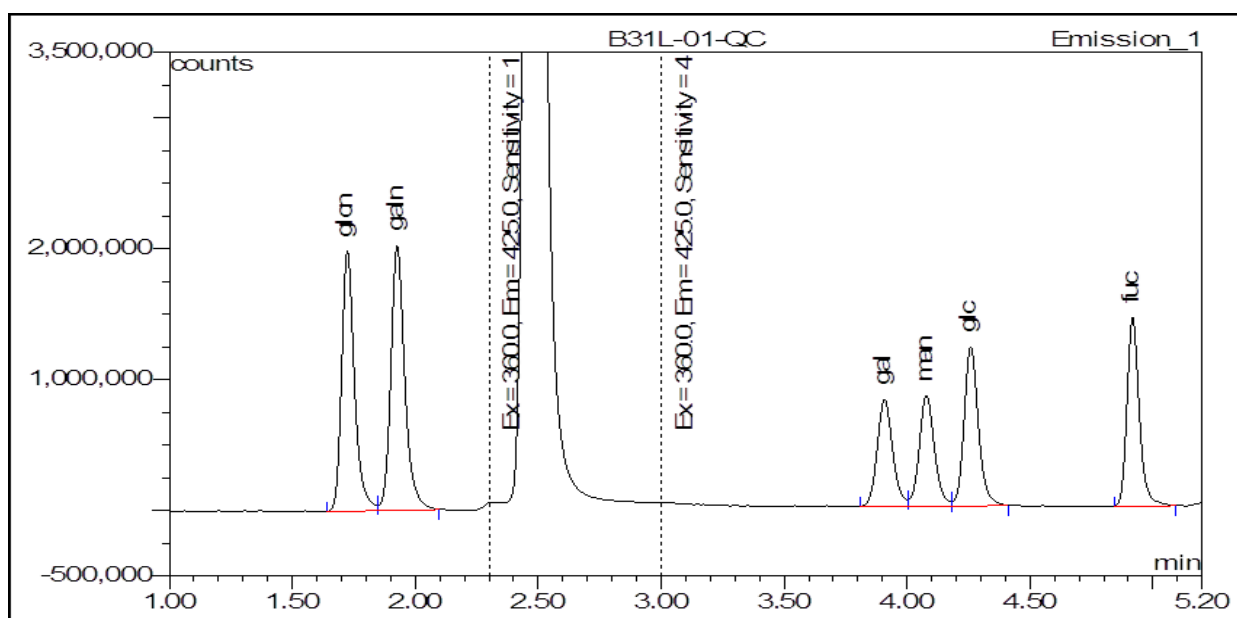


Figure 1: LudgerSep-uR2 HPLC profile of 2-aminobenzoic acid (2-AA) labeled mono-mix. (Cat. #: CM-MONO-MIX-10, Batch B31L-01). The peak at 2.5min is free dye.

Accuracy: The monosaccharide amounts are detailed in Table 1. This analysis was performed on 10 vials.

Monosaccharide	Nmols monosaccharide per vial
GlcN	9.7 ± 0.2
GalN	9.8 ± 0.16
Gal	10.1 ± 0.14
Man	9.7 ± 0.25
Glc	10 ± 0.15
Fuc	10.1 ± 0.12

Table 1: Quantitative analysis of the monomix composition. Values are in Nmols ±95% confidence interval.

2-AA labeled monosaccharide standards eluted under the following HPLC conditions:

Column: LudgerSep R2 (Cat. #: LS-uR2-2.1x50)

Flow: 0.4 ml/min. Increasing to 0.6 ml/min at 6 min.

Temperature: 35 °C

Solvent A: butylamine:phosphoric acid:tetrahydrofuran (BPT)

Solvent B: acetonitrile

Gradient:

Time (min)	% B	Flow rate (ml/min)
0	0	0.4
1	0	0.4
4.5	15.7	0.4
4.6	50	0.4
5.6	50	0.4
6	0	0.6
8	0	0.6

HPLC: Dionex U3000 UPHPLC Detector: U3000 FLD Excitation wavelength: 360 nm

Emission wavelength: 425 nm



Certificate of Analysis

Xylose Standard

Cat. # CM-XYL-100

Batch #: B219-09

Size: 100 nmols

The xylose reference standard is a quantitative standard comprised of NIST-F and USP traceable xylose (Xyl)

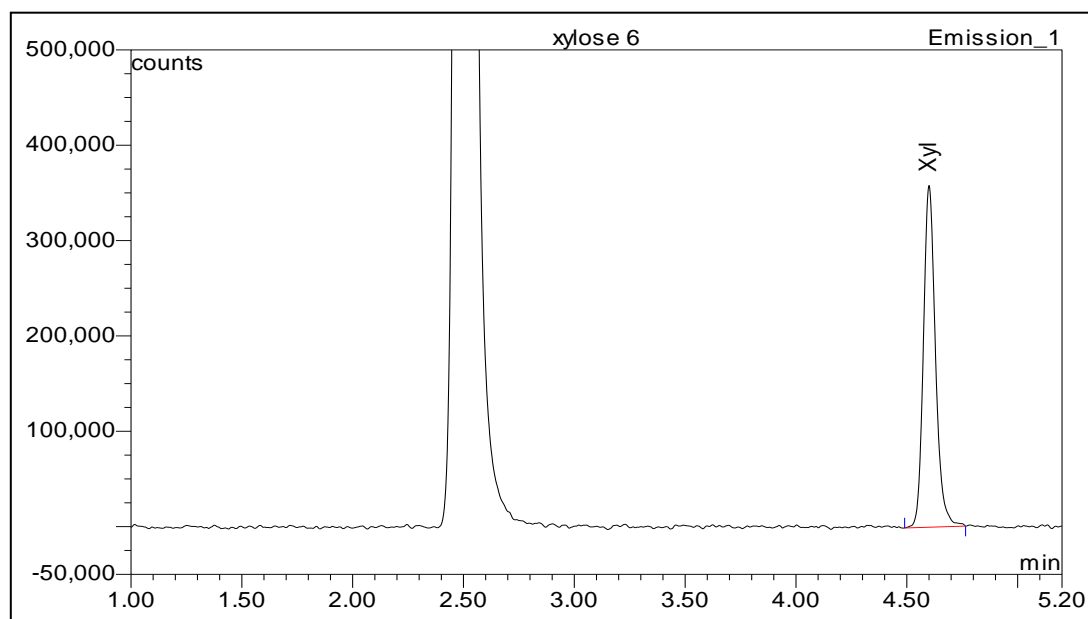


Figure 1: Ludger Sep-UR2 column profile of CM-XYL-100 -2AA labelled. The peak between 2-3 minutes is free dye. Sample run February 2013.

Accuracy

The xylose monosaccharide amount is 107 ± 2.01 taken from analysis of 12 sample vials from this batch. Values are in Nmols $\pm 95\%$ confidence interval.

2-AA labeled monosaccharide standards eluted under the following HPLC conditions:

Column: LudgerSep uR2 (Cat. #: LS-UR2-2.1x50)

Flow: 0.4 ml/min.

Temperature: 35 °C

Solvent A: butylamine:phosphoric acid:tetrahydrofuran (BPT)

Solvent B: acetonitrile

Gradient: 0-1 min: 0% B, 1-4.5 min: 0-15.7% B, 4.5-4.6 min: 15-50% B, 4.6-5.6 min: 50% B

HPLC: Dionex U3000 UHPLC Detector: U3000 FD Excitation wavelength: 360 nm

Emission wavelength: 425 nm