

Certificate of Analysis

N-Acetylneuraminic Acid Standard

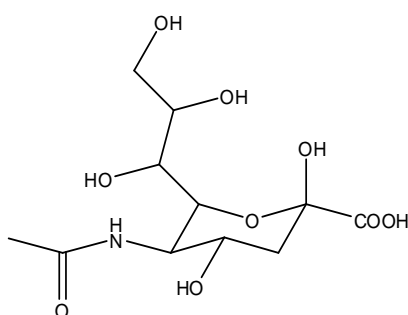
Cat. #: CM-NEUAC-100

Batch: B88A-01

Expiry Date: 03 Aug 2022

Size: ~100 nmol

The N-acetylneuraminic acid standard is a quantitative standard of NIST-F and USP traceable Neu5Ac monosaccharide.



Chemical Formula: $C_{11}H_{19}NO_9$
 Exact Mass: 309.11
 Molecular Weight: 309.27
 m/z: 309.11 (100.0%), 310.11 (12.5%),
 311.11 (2.6%)
 Elemental Analysis: C, 42.72; H, 6.19; N,
 4.53; O, 46.56

The bulk concentration of NeuAc was calculated independently by weight and by quantitative Nuclear Magnetic Resonance (qNMR). (Table 1) The qNMR analysis was performed in triplicate.

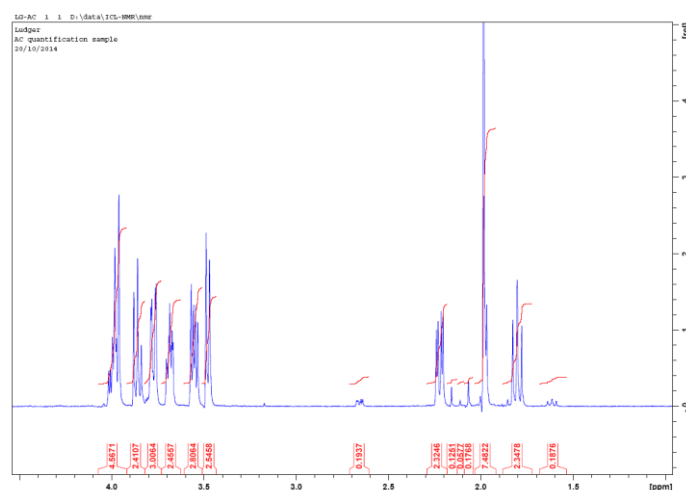


Figure 1. 1H -NMR (500 MHz) of NeuAc in D_2O .

A: Concentration by weight (mM) of NeuAc Bulk	B: Concentration using by qNMR (mM) of NeuAc Bulk	(B/A Ratio)*100
28.91	29.15 ± 0.323	100.8

Table 1: Comparison between the concentrations calculated by weight and by qNMR of the NeuAc Bulk solution.

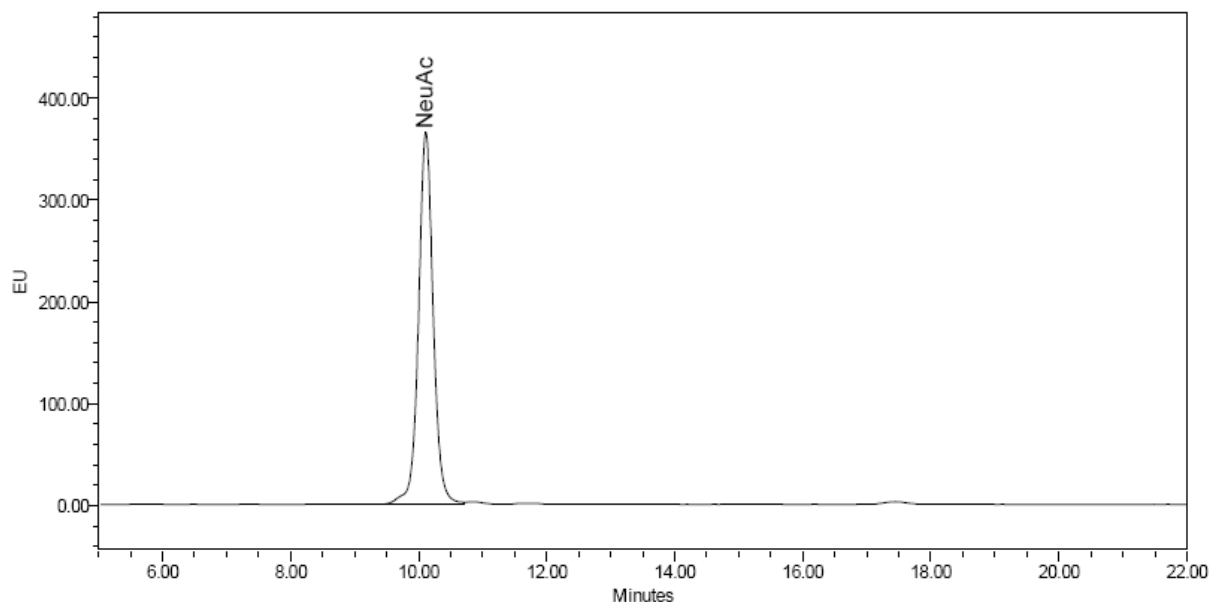


Figure 2. LudgerSep-R1 HPLC profile of 1,2-diamino-4,5-methylenedioxybenzene.2HCl (DMB) labelled NeuAc standard (Cat. #: CM-NEUAC-100, Batch B88A-01)

This analysis was performed on 5 vials of CM-NEUAC-100. 2 nmol from each vial were labelled. The dispensed pots were dissolved in 500 µl of water and 10 µl aliquots were taken for analysis.

The dispensing error is predicted to be than less 5%.

DMB labeled sialic acid standards eluted under the following HPLC conditions:

Column: LudgerSep R1 (Cat. #: LS-R1-4.6x150)

Flow: 0.5 ml/min.

Temperature: 30 °C

Solvent A: methanol:acetonitrile:water (7:9:84)

Solvent B: acetonitrile

Gradient:

Time (min)	%B
0.0	0.0
19.0	0.0
19.5	90.0
23.5	90.0
24.0	0.0
30.0	0.0
35.0	0.0

Detector: Fluorescence

Excitation wavelength: 373 nm

Emission wavelength: 448 nm