

Certificate of Analysis

N-acetylneuraminic Acid Standard

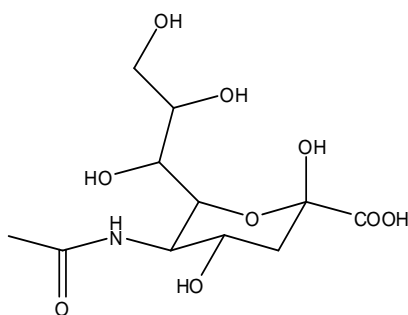
Cat. #: CM-NEUAC-100

Batch: B252-02

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.

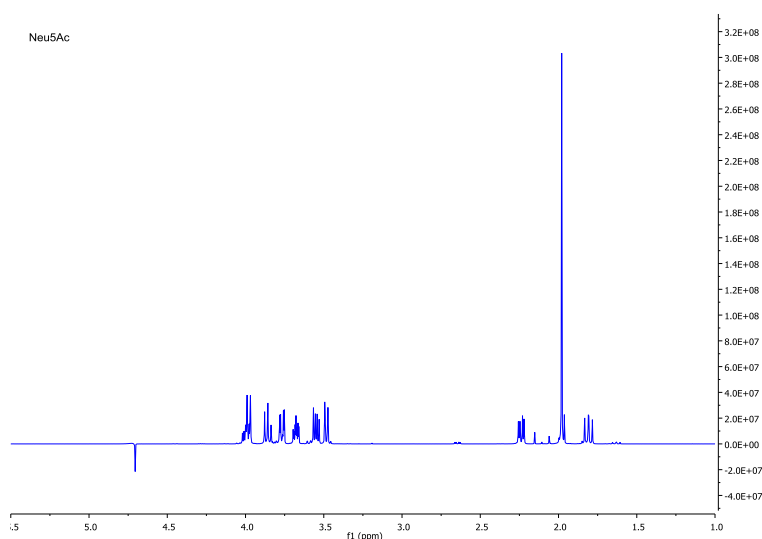


Figure 1. $^1\text{H-NMR}$ (500 MHz) of NeuAc in D_2O .

A: Concentration by weight (mM) of NeuAc Bulk	B: Concentration using by qNMR (mM) of NeuAc Bulk	(B/A Ratio)*100
29.34	29.56 ± 0.256	100.7

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

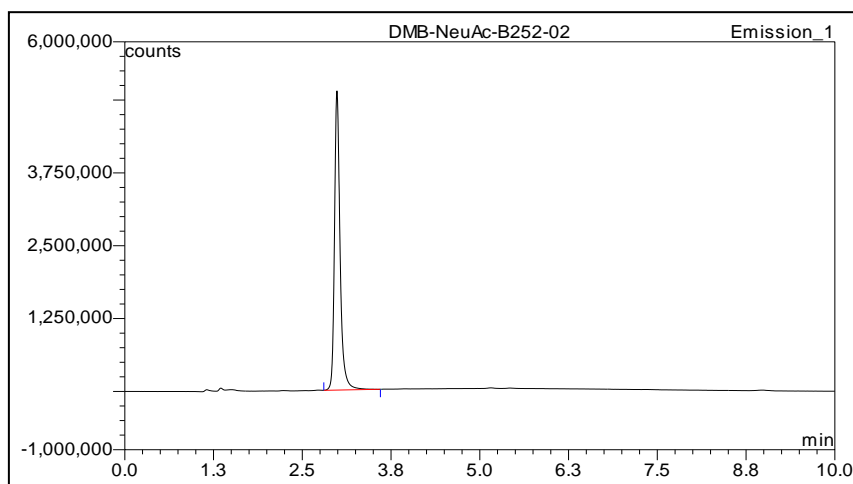


Figure 2. LudgerSep-uR2 HPLC profile of 1,2-diamino-4,5-methylenedioxybenzene.2HCl (DMB) labelled NeuAc standard (Cat. #: CM-NEU-AC-100, Batch B252-02)

This analysis was performed on 5 vials of CM-NEU-AC-100. 2 nmol were labeled. The dispensed pots were dissolved in 500 ml of water and the analysis was performed in 10 μ l.

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

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

Column: LudgerSep uR2 (Cat. #: LS-uR2-2.1x100)

Flow: 0.25 ml/min.

Temperature: 30 °C

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

Gradient: 0-10 min: 100% Solvent A

HPLC: Dionex U3000 UHPLC Detector: U3000 FD Excitation wavelength: 373 nm Emission wavelength: 448 nm