



CERTIFICATE OF ANALYSIS

Version 3.7

revised on June 7, 2023

Neuraminidase Sp

PRODUCT NAME: Neuraminidase Sp
PRODUCT NUMBERS: E-S007, E-S007-200, E-S007-20

LOT NUMBER: 404.1C
EXPIRATION DATE: June 3, 2026
ASSAY DATE: May 27, 2023

SOURCE: *Streptococcus pneumonia*
FORMULATION: 50 mM sodium phosphate pH 7.5, filter sterilized.
STORAGE: 4°C (Do not freeze)

ACTIVITY: Activity¹ 5 U/ml (Specification: ≥ 5 U/ml)
Specific Activity² 210 U/mg (Specification: ≥ 150 U/mg)

CONTAMINATING ACTIVITY ASSAYS:

Protease Assay ³	Passed	(Specification "Passed")
Glycosidase activity ⁴		
Beta-Galactosidase	Passed	(Specification "Passed")
N-acetylglucosaminidase	Passed	(Specification "Passed")
Alpha-Galactosidase	Passed	(Specification "Passed")

Contaminant tested for:
Protease
Beta-Galactosidase
N-acetylglucosaminidase
Alpha-Galactosidase

Substrate:
Denatured BSA
p-nitrophenyl-beta-D-galactopyranoside
p-nitrophenyl-beta-D-N-acetylglucosaminide
p-nitrophenyl-alpha-D-galactopyranoside

1. Defined as the amount of enzyme required to produce 1 μ mole of methylumbelliferone in 1 minute at 37°C, pH 5.0 from MU-NANA [2'-(4-methylumbelliferyl)-alpha-D-N-acetylneuraminic acid].
2. Protein concentration determined by Bradford method, using BSA as a standard.
3. For the protease assay, 10 μ g of denatured BSA is incubated at 37°C for 24 hr with 2 ul of enzyme. SDS-PAGE analysis of the treated BSA shows no evidence of degradation.
4. Unexpected glycosidic activity is tested by incubating the enzyme for 24 hours at 37°C with the appropriate substrates; the detection limit of this assay is 5 μ U/ml (IUB). A passing lot will have no detectable activity.

President - QA-Bio Inc
Authorized by Mike Gibson
June 7, 2023