Creative Enzymes
Diagnostic Enzymes

Native Escherichia coli N-Acetylneuraminic Acid Aldolase

Product Information

Cat#	NATE-0490
Similar	NALase
Source	Escherichia coli
Description	In enzymology, a N-acetylneuraminate lyase (EC 4.1.3.3) is an enzyme that catalyzes the chemical reaction:N-acetylneuraminate↔ N-acetyl-D-mannosamine + pyruvate. Hence, this enzyme has one substrate, N-acetylneuraminate, and two products, N-acetyl-D-mannosamine and pyruvate. This enzyme belongs to the family of lyases, specifically the oxo-acid-lyases, which cleave carbon-carbon bonds. This enzyme participates in aminosugars metabolism.
Form	Lyophilized powder containing potassium phosphate buffer salt
Activity	> 20 units/mg protein (biuret)
CAS No.	9027-60-5
Isoelectric point	4.6 ± 0.1
Unit Definition	One unit will release 1.0 μmole of pyruvate from NANA per min at pH 7.7 at 37°C.
Storage	−20°C
Synonyms	N-acetylneuraminic acid aldolase; acetylneuraminate lyase; sialic aldolase; sialic acid aldolase; sialate lyase; N-acetylneuraminic aldolase; neuraminic aldolase; N-acetylneuraminate aldolase; neuraminic acid aldolase; N-acetylneuraminic acid aldolase; neuraminate aldolase; N-acetylneuraminic lyase; N-acetylneuraminic acid lyase; NPL; NALase; NANA lyase; acetylneuraminate pyruvate-lyase; N-acetylneuraminate pyruvate-lyase; 9027-60-5; EC 4.1.3.3
Enzyme Commission Number	EC 4.1.3.3
pH Stability	pH 6.0–9.0 (10°C, 25hr)

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Michaelis Constant	2.5 x 10¯3M (N-Acetylneuraminic acid)
Optimum pH	7.5– 8.0
Optimum temperature	70°C
Thermal stability	Below 65°C (pH 7.5, 30 min)
Inhibitors	p-Chloromercuribenzoate, sodium dodecyl sulfact, Hg++, Ag+
Abbr	NPL, Native (Escherichia coli)
Alias	NPL; NALase; NANA lyase
Applications	This enzyme is useful for enzymatic determination of N-acetylneuraminic acid and sialic acid when coupled with the related enzymes in clinical analysis. For industrial use, this enzyme is useful for enzymatic synthesis of sialic acid. Used in the Sialic Acid Quantification Kit, SIALIC-Q
Structure	3 subunits (approx. 35 kDa) per mol of enzyme
Molecular Weight	mol wt ~98 kDa

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