Creative Enzymes
Diagnostic Enzymes

Native Microorganism N-Acetylneuraminic acid aldolase

Product Information

Cat#	DIA-182
Similar	NALase
Source	Microorganism
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.
Form	Freeze dried powder
Activity	Grade III 15U/mg-solid or more (30U/mg-protein or more), (containing approx. 30% of stabilizers)
CAS No.	9027-60-5
Isoelectric point	4.6±0.1
Synonyms	N-Acetylneuraminate Pyruvate Lyase; N-Acetylneuraminic Acid Lyase; NANA Aldolase; EC 4.1.3.3; N-acetylneuraminate pyruvate-lyase (N-acetyl-D-mannosamine-forming); 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; NPL; NALase; NANA lyase; acetylneuraminate pyruvate-lyase; N-acetylneuraminate pyruvate-lyase
Enzyme Commission Number	EC 4.1.3.3
pH Stability	pH 6.0−9.0 (10°C, 25hr)
Michaelis Constant	2.5×10^{-3}M (N-Acetylneuraminic acid)

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Optimum pH	7.5-8.0
Optimum temperature	70°C
Thermal stability	below 65°C (pH 7.5, 30min)
Stability	Stable at-20°C for at least 6 months
Inhibitors	p-Chloromercuribenzoate, sodium dodecyl sulfate, Hg^{++}, Ag^{+}
Contaminants	Catalase < 1.0%, NADH oxidase < $1.0x10^{-3}$%
Abbr	NALase (Microorganism)
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.
Appearance	Yellowish amorphous powder, lyophilized
Structure	3 subunits (approx. 35,000) per mol of enzyme
Molecular Weight	approx. 98 kDa

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