



Native Microorganism N-Acetylneuraminic acid aldolase

Product Information

Cat#	DIA-182
Similar	NALase
Source	Microorganism
Description	In enzymology, a N-acetylneuraminic acid aldolase (EC 4.1.3.3) is an enzyme that catalyzes the chemical reaction: N-acetylneuraminic acid \leftrightarrow N-acetyl-D-mannosamine + pyruvate. Hence, this enzyme has one substrate, N-acetylneuraminic acid, 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 \pm 0.1
Synonyms	N-Acetylneuraminic acid Pyruvate Lyase; N-Acetylneuraminic Acid Lyase; NANA Aldolase; EC 4.1.3.3; N-acetylneuraminic acid aldolase; N-acetylneuraminic acid aldolase; acetylneuraminic acid aldolase; sialic aldolase; sialic acid aldolase; sialate lyase; N-acetylneuraminic aldolase; neuraminic aldolase; N-acetylneuraminic aldolase; neuraminic acid aldolase; N-acetylneuraminic acid aldolase; neuraminic aldolase; N-acetylneuraminic lyase; NPL; NALase; NANA lyase; acetylneuraminic acid pyruvate-lyase; N-acetylneuraminic acid pyruvate-lyase
Enzyme Commission Number	EC 4.1.3.3
pH Stability	pH 6.0–9.0 (10°C, 25hr)
Michaelis Constant	2.5 \times 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