Native Microorganism N-Acetylneuraminic acid aldolase

Cat. No. DIA-182

Lot. No. (See product label)

Introduction

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.
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.
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

Product Information

Source	Microorganism
Appearance	Yellowish amorphous powder, lyophilized
Form	Freeze dried powder
EC Number	EC 4.1.3.3
CAS No.	9027-60-5
Molecular Weight	approx. 98 kDa
Activity	Grade III 15U/mg-solid or more (30U/mg-protein or more), (containing approx. 30% of stabilizers)
Contaminants	Catalase < 1.0%, NADH oxidase < $1.0x10^{-3}$%
Isoelectric point	4.6±0.1
pH Stability	pH 6.0−9.0 (10°C, 25hr)
Optimum pH	7.5-8.0
Thermal stability	below 65°C (pH 7.5, 30min)
Optimum temperature	70°C
Michaelis Constant	$2.5×10^{-3}$M (N-Acetylneuraminic acid)
Structure	3 subunits (approx. 35,000) per mol of enzyme
Inhibitors	p-Chloromercuribenzoate, sodium dodecyl sulfate, Hg^{++}, Ag^{+}

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Storage and Shipping Information

Stability	Stable at-20°C for at least 6 months