Native Escherichia coli N-Acetylneuraminic Acid Aldolase

Cat. No. NATE-0490

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. This enzyme participates in aminosugars metabolism.

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

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

Product Information

Source	Escherichia coli
Form	Lyophilized powder containing potassium phosphate buffer salt
EC Number	EC 4.1.3.3
CAS No.	9027-60-5
Molecular Weight	mol wt ~98 kDa
Activity	> 20 units/mg protein (biuret)
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, 30 min)
Optimum temperature	70°C
Michaelis Constant	2.5 x 10^{-3}M (N-Acetylneuraminic acid)
Structure	3 subunits (approx. 35 kDa) per mol of enzyme
Inhibitors	p-Chloromercuribenzoate, sodium dodecyl sulfact, Hg++, Ag+
Unit	One unit will release 1.0 umole of pyruvate from NANA per min at pH 7.7 at 37°C

Definition	

Storage and Shipping Information

Storage	−20°C