

## 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  $\leftrightarrow$  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  $\pm$  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<sup>-3</sup>M (N-Acetylneuraminic acid)

#### Structure

3 subunits (approx. 35 kDa) per mol of enzyme

#### Inhibitors

p-Chloromercuribenzoate, sodium dodecyl sulfact, Hg<sup>++</sup>, Ag<sup>+</sup>

#### Unit Definition

One unit will release 1.0  $\mu$ mole of pyruvate from NANA per min at pH 7.7 at 37°C.

### ***Storage and Shipping Information***

**Storage** −20°C