Active Native Clostridium perfringens Neuraminidase, Type X

Cat. No. Neuraminidase-007C **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Type X
Species	Clostridium perfringens (C. welchii)
Description	Neuraminidase enzymes are glycoside hydrolase enzymes that catalyze hydrolysis of terminal sialic acid residues. The most well-known are the viral nearamidases, which promote influenza virus release.
Form	Lyophilized powder
CAS Number	9001-67-6
Enzyme Commission number	3.2.1.18 (BRENDA, IUBMB)
EC Number	232-624-6
MDL number	MFCD00131711
UNSPSC Code	12352204
NACRES	NA.54
Biochem/physiol Actions	Neuraminidase can block attachment of type 3 reovirus to cell membranes. This effect is related to the ability of neuraminidase to hydrolysis sialic acid residues within

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	cell surface receptors. Neuraminidase cleavage of sialic acid groups has been used to study recognition by antibodies of glycoprotein structures. The use of neuraminidase in the estimation of N-acetylneuraminic acid was compared favorably to two other methods. Neuraminidases are used to cleave terminal N-acetyl neuraminic acid (sialic acid) from a variety of glycoproteins. The enzyme from Clostridium perfringens cleaves terminal sialic acid residues which are α-2,3- α-2,6- or α-2,8-linked to Gal, GlcNac, GalNAc, AcNeu, GlcNeu, oligosaccharides, glycolipids or glycoproteins. The relative rate of cleavage decreases in the order: α-2-3 > α-2-6. α-2-8. Neuraminidase from C. perfringens cleaves α-2-3 linked sialic acid residues most efficiently, compared to A. ureafaciens, which preferentially cleaves α-2-6 linked residues. The use of neuraminidase to remove sialic acid residues from glycoproteins on cell surfaces has been frequently reported. Generally, procedures have indicated using neuraminidase in PBS at 37 centigrade for 30 minutes, followed by several washings with PBS. Treatment of tissue sections with neuraminidase at much lower concentrations require longer incubation: for 1-4 U/mL in 0.1 M acetate buffer pH 4.2-5, from 2 to 20 hours at 37 centigrade.
Bio-activity	≥50 units/mg protein (using 4MU-NANA)
Unit Definition	One unit will hydrolyze 1.0 micromole of 2′-(4-Methylumbelliferyl)-alpha-D-N-actetyl neuraminic acid per min at pH 5.0 at 37 centigrade.
Applications	Neuraminidase from Clostridium perfringens has been used in a study to assess purification via affinity chromatography. It has also been used in a study to investigate site-directed mutations of amino acids of the neuraminidase gene, nanH.
Storage	At -20 centigrade

GENE INFORMATION

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Official Symbol	Neuraminidase
Synonyms	Acyl-neuraminyl Hydrolase; Receptor-destroying enzyme; Sialidase; Neuraminidase; Neuraminidase Type X

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