Active Native Clostridium perfringens Neuraminidase, Type V

Cat. No. Neuraminidase-008C **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Type V
Species	Clostridium perfringens (C. welchii)
Description	Neuraminidase enzymes are hydrolase enzymes that promote influenza virus release from infected cells and facilitate virus spread.
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
Foreign activity	Protease and NAN-aldolase, present
Biochem/physiol Actions	Neuraminidase can increase aggregation in certain cell lines by removing exposed negatively charged sialic acid residues on the cell surface.

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	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	≥0.1 units/mg solid (using mucin) ≥1.3 units/mg solid (using 4MU-NANA)
Unit Definition	One unit will liberate 1.0 micromole of N-acetyl neuraminic acid per minute at pH 5.0 at 37 centigrade using bovine submaxillary mucin. One unit will hydrolyze 1.0 micromole of 2′-(4-methylumbelliferyl)-a-D-N-actetylneuraminic acid per minute at pH 5.0 at 37 centigrade (using 4MU-NANA as a substrate)
Applications	Suitable for manufacturing of diagnostic kits and reagents; diagnostic assay manufacturing. Neuraminidase from Clostridium perfringens has been used in a study to assess

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	binding with human T lymphocytes in sheep pretreated with neuraminidase. It has also been used in a study to investigate the effect of bile salts on the action of hydrolysis by neuraminidase.
Storage	At -20 centigrade
Shipping	Dry ice

GENE INFORMATION

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

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