

Neuraminidase Protein, C.perfringens, Recombinant (His)

General Information

Synonyms:	NP Protein
Protein Construction:	A DNA sequence encoding the C. Perfringens neuraminidase (P10481.1) (Cys 2-Gln 382) was expressed, with a N-terminal polyhistidine tag. Predicted N terminal: Met
Species:	C.perfringens
Expression Host:	E. coli
Accession:	P10481.1
Molecular Weight:	43.6 kDa (predicted); 40 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to cleave a fluorogenic substrate, 2'-(4-Methylumbelliferyl)- α -D-N-acetylneuraminic acid. The specific activity is 150,000 pmoles/min/ μ g (Activity of this protein is much better than the world's famous brand) as measured under the described conditions.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Clostridium perfringens / *C. perfringens* (formerly known as *C. welchii*) is a Gram-positive, rod-shaped, anaerobic, spore-forming bacterium of the genus *Clostridium*. *C. perfringens* is ubiquitous in nature and can be found as a normal component of decaying vegetation, marine sediment, the intestinal tract of humans and other vertebrates, insects, and soil. *C. perfringens* is commonly encountered in infections as a benign component of the

normal flora. In this case, its role in disease is minor. Infections due to *C. perfringens* show evidence of tissue necrosis, bacteremia, emphysematous cholecystitis, and gas gangrene, which is also known as clostridial myonecrosis. NA, also called sialidases, specifically catalyze the hydrolysis removal of terminal sialic acid residues from viral and cellular glycoconjugates. *C. Perfringens* neuraminidase catalyzes the hydrolysis of alpha-(2->3)-, alpha-(2->6)-, glycosidic linkages of terminal sialic acid residues in oligosaccharides, glycoproteins, glycolipids, colominic acid and synthetic substrates, but has little activity against the α 2-8 glycosidic linkages. The function of the neuraminidase is to release sialic acids for use as carbon and energy sources for the non-pathogenic bacterium, while in pathogenic microorganisms, sialidases have been suggested to be pathogenic factors

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