Data Sheet (Cat.No.TMPY-02952)

TargetMol

SIAE Protein, Human, Recombinant (His)

General Information

Synonyms:	CSE-C;AIS6;CSEC;LSE;YSG2;sialic acid acetylesterase
Protein Construction:	A DNA sequence encoding the human SIAE (Met 1-Lys523) (Q9HAT2-1) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Ile 24
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9HAT2-1
Molecular Weight:	57.4 kDa (predicted); 61 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 8.0.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

Sialate O-acetylesterase belongs to the family of hydrolases, specifically those acting on carboxylic ester bonds. It is widely expressed with high expression in the testis, prostate, and colon. The systematic name of this enzyme class is N-acyl-O-acetylneuraminate O-acetylhydrolase. Other names in common use include N-acetylneuraminate acetyltransferase, sialate 9(4)-O-acetylesterase, and sialidase. Sialate O-acetylesterase catalyzes the removal of O-acetyl ester groups from position 9 of the parent sialic acid, N-acetylneuraminic acid.

Defects in Sialate O-acetylesterase are a cause of autoimmune disease type 6 (AIS6). Individuals manifesting susceptibility to autoimmune disease type 6 can suffer from juvenile idiopathic arthritis, rheumatoid arthritis, multiple sclerosis, Sjogren syndrome, systemic lupus erythematosus, type 1 diabetes, ulcerative colitis, and Crohn disease.

Reference

Mandal C,et al.(2012) Regulation of O-acetylation of sialic acids by sialate-O-acetyltransferase and sialate-O-acetylesterase activities in childhood acute lymphoblastic leukemia. Glycobiology. 22(1): 70-83.
Tsai S,et al.(2011) Transcriptional profiling of human placentas from pregnancies complicated by preeclampsia reveals disregulation of sialic acid acetylesterase and immune signalling pathways. Placenta. 32 (2): 175-82.
Surolia I,et al.(2010) Functionally defective germline variants of sialic acid acetylesterase in autoimmunity. Nature. 466 (7303): 243-7.

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