Data Sheet (Cat.No.TMPY-01893)

TargetMol

Serpin A12 Protein, Human, Recombinant (His)

General Information

Synonyms:	OL-64;serpin peptidase inhibitor, clade A (α-1 antiproteinase, antitrypsin), member 12;Serpin A12;serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 12
Protein Construction:	A DNA sequence encoding the human SERPINA12 (NP_776249.1) (Met 1-Lys 414) was expressed, with a polyhistidine tag at the C-terminus. Predicted N terminal: Leu 21
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q8IW75
Molecular Weight:	46.5 kDa (predicted); 50-55 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to inhibit KLK7 cleavage the fluorogenic peptide substrate, Mca-RPKPVE-Nval-WRK(Dnp)-NH2 . The IC50 is <75 nM.
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 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

Serpins are the largest and most diverse family of protease inhibitors. Most serpins control proteolytic cascades, certain serpins do not inhibit enzymes, but instead perform diverse functions such as storage (ovalbumin, in egg white), hormone carriage proteins (thyroxine-binding globulin, cortisol-binding globulin) and tumor suppressor genes (maspin). Most inhibitory serpins target chymotrypsin-like serine proteases. These enzymes are defined by

the presence of a nucleophilic serine residue in their catalytic site. Some serpins inhibit other classes of protease. A number of such serpins have been shown to target cysteine proteases. These enzymes differ from serine proteases in that they are defined by the presence of a nucleophilic cysteine residue, rather than a serine residue, in their catalytic site.SerpinA12, also known as OL-64, Visceral adipose tissue-derived serine protease inhibitor, Vaspin, Visceral adipose-specific serpin and SERPINA12, is a secreted protein that belongs to the serpin family. SerpinA12 / Vaspin is expressed in visceral adipose tissues. It may modulate insulin action conceivably only in the presence of its yet undefined target proteases in white adipose tissues. SerpinA12 / Vaspin may be the compensatory molecule in the pathogenesis of metabolic syndrome and SerpinA12 / Vaspin recombinant protein or vaspin-mimicking agents such as vaspin analogs, antibodies or small molecule agents may be the link to drug discovery and development.

Reference

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