Datasheet for ABIN7197938

SERPINA1 Protein (His tag)

Go to Product page

Overview

Quantity:	100 µg
Target:	SERPINA1
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This SERPINA1 protein is labelled with His tag.

Product Details

Purpose:	Recombinant Human SerpinA1/A1AT Protein (His Tag)(Active)
Sequence:	Met 1-Lys 418
Characteristics:	A DNA sequence encoding the human SerpinA1 (NP_000286.3) pre-protein (Met 1-Lys 418) was expressed with a C-terminal polyhistidine tag.
Purity:	> 97 % as determined by reducing SDS-PAGE.
Endotoxin Level:	< 1.0 EU per µg as determined by the LAL method.
Biological Activity Comment:	Measured by its ability to inhibit trypsin cleavage of a fluorogenic peptide substrate, Mca-RPKPVE-Nval-WRK(Dnp)-NH2 (Anaspec, Catalog#27114). The IC50 value is < 3.0 nM, as measured in 100µL reaction mixture containing 1.25 ng trypsin (Sigma, Catalog#T1426), 10 µM substrate, 50 mM Tris, 10 mM CaCl2, 0.15 M NaCl, pH 7.5.

Target Details

Target:	SERPINA1
Alternative Name:	SerpinA1/A1AT (SERPINA1 Products)
Background:	Background: SerpinA1, also known as Alpha-1 antitrypsin (AAT), is a prototype member of the Serpin superfamily of the serine protease inhibitors. This serine protease inhibitor blocks the protease, neutrophil elastase. Alpha-1 antitrypsin is mainly produced in the liver and acts as an antiprotease. Its principal function is to inactivate neutrophil elastase, preventing tissue damage. SerpinA1 (alpha1-antitrypsin), an acute phase protein and the classical neutrophil elastase inhibitor, is localized within lipid rafts in primary human monocytes in vitro. It association with monocytes is inhibited by cholesterol depleting/efflux-stimulating agents (nystatin, filipin, MbetaCD (methyl-beta-cyclodextrin) and oxidized low-density lipoprotein (oxLDL) and conversely, enhanced by free cholesterol. Furthermore, SerpinA1/monocyte association per se depletes lipid raft cholesterol as characterized by the activation of extracellular signal-regulated kinase 2, formation of cytosolic lipid droplets, and a complete inhibition of oxLDL uptake by monocytes. Previous population studies have suggested that heterozygote status for the AAT gene (SerpinA1) is a risk factor for chronic rhinosinusitis with nasal polyposis (CRSwNP). Alpha-1 antitrypsin deficiency is a recently identified genetic disease that occurs almost as frequently as cystic fibrosis. It is caused by various mutations in the SerpinA1 gene, and has numerous clinical implications. Alpha-1 antitrypsin deficiency is an inherited disease affecting the lung and liver. In the liver, alpha-1 antitrypsin deficiency may manifest as benign neonatal hepatitis syndrome, a small percentage of adults develop liver fibrosis, with progression to cirrhosis and hepatocellular carcinoma. Its most important physiologic functions are the protection of pulmonary tissue from aggressive proteolytic enzymes and regulation of pulmonary immune processes. Synonym: Alpha-1-Antitrypsin, Alpha-1 Protease Inhibitor, Alpha-1-Antiproteinase, Serpin A1, SERPINA1, AAT, PI,A1A,A1AT,AAT,alpha1AT,MGC23330,MGC9222,PI1,PRO2275
Molecular Weight:	45.7 kDa
NCBI Accession:	NP_000286

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized

Handling

Reconstitution:	Please refer to the printed manual for detailed information.
Buffer:	Lyophilized from sterile PBS, pH 7.4
Storage:	4 °C,-20 °C,-80 °C
Storage Comment:	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.