Recombinant Protein Technical Manual

Recombinant Human SerpinE1/PAI Protein (His Tag)(Active)

RPES4647

Product Data:

Product SKU: RPES4647

Size: 10µg

Species: Human

Expression host: HEK293 Cells

Uniprot: NP_000593.1

Protein Information:

Molecular Mass:	44.2 kDa
AP Molecular Mass:	45 kDa
Tag:	C-His
Bio-activity:	Measured by its ability to inhibit uPA cleavage of a peptide substrate, N-carbobenzyloxy-Gly-Gly-Arg-7-amido-4-methylcoumarin (Z-GGR-AMC). The IC50 value is < 60 nM.
Purity:	> 97 % as determined by reducing SDS-PAGE.
Endotoxin:	< 1.0 EU per µg as determined by the LAL method.
Storage:	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℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping:	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation:	Lyophilized from sterile 50mM NaAc, 0.1M NaCl, pH 5.5
Reconstitution:	Please refer to the printed manual for detailed information.
Application:	
Synonyms:	Plasminogen Activator Inhibitor 1; PAI; PAI; Endothelial Plasminogen Activator Inhibitor; Serpin E1; SERPINE1; PAI1; PLANH1;SERPINE1

Immunogen Information:

Sequence: Met 1-Pro 402

Background:

Plasminogen activator inhibitor 1, also known as PAI, Endothelial plasminogen activator inhibitor, SerpinE1 and PLANH1, is a secreted glycoprotein which belongs to the serpin family. SerpinE1 is the primary physiological inhibitor of the two plasminogen activators urokinase (uPA) and tissue plasminogen activator (tPA). Its rapid interaction with TPA may function as a major control point in the regulation of fibrinolysis. Defects in SerpinE1 are the cause of plasminogen activator inhibitor deficiency (PAI deficiency) which is characterized by abnormal bleeding due to SerpinE1 defect in the plasma. High concentrations of SerpinE1 have been associated with thrombophilia which is an autosomal dominant disorder in which affected individuals are prone to develop serious spontaneous thrombosis. Studies of PAI have contributed significantly to the elucidation of the protease inhibitory mechanism of serpins, which is based on a metastable native state becoming stabilised by insertion of the RCL into the central beta-sheet A and formation of covalent complexes with target proteases. Greater expression of PAI has been associated with increased survival of cells and resistance to apoptosis. PAI appears to influence apoptosis by decreasing cell adhesion (anoikis) as well as its effect on intracellular signaling. PAI, in its active state, also binds to the extracellular protein vitronectin. When in complex with its target proteases, it binds with high affinity to endocytosis receptors of the low density receptor family. The mechanisms of PAI overexpression during obesity are complex, and it is conceivable that several inducers are involved at the same time at several sites of synthesis. PAI is also implicated in adipose tissue development. It suggests that PAI inhibitors serve in the control of atherothrombosis.