PAI-1 Human E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Human
Other names: Plasminogen activator inhibitor 1, Endothelial plasminogen activator inhibitor, Serpine 1, PAI, PLANH-1

Cat. No.:

RBG10263002	(2 µg)
RBG10263010	(10 µg)
RBG10263100	(100 µg)

Description

Plasminogen Activator Inhibitor-1 (PAI-1, Serpin E1) is a member of the serpin family of serine protease inhibitors, and is the primary inhibitor of urokinase and tissue plasminogen activator (tPA). PAI-1 is expressed predominantly in adipose, liver and vascular tissues, but is also produced by certain tumor cells. Elevated levels of PAI-1 are associated with obesity, diabetes and cardiovascular disease, and increased production of PAI-1 is induced by various obesity-related factors, such as TNFalpha, glucose, insulin, and very-low-density lipoprotein. The obesity-related elevation of PAI-1 levels, along with the consequential deficiency in plasminogen activators, can lead directly to increased risk of thrombosis and other coronary diseases. Accordingly, PAI-1 has been implicated as an important molecular link between obesity and coronary disease. PAI-1 can also specifically bind vitronectin (VTN) to form a stable active complex with an increased circulatory half-life relative to free PAI-1. Recombinant Human PAI-1 is a 42.7 kDa protein containing 379 amino acid residues.

Introduction to the Molecule

PAI-1 is the primary inhibitor of plasminogen activators in plasma. PAI-1 is a single-chain glycoprotein with a molecular weight of 47 kDa. It is synthesized in the liver and by endothelial cells, and its synthesis is regulated by several physiologic mediators including endotoxin, interleukin-1, fibroblast growth factor-2, and lipids. PAI-1 is an important inhibitor of the fibrinolytic system, therefore, elevated levels could suppress fibrinolysis and result in an increased risk of thrombosis.

Research topic

Energy metabolism and body weight regulation, Others

Amino Acid Sequence

VHHPPSYVAH LASDFGVRVF QQVAQASKDR NVVFSPYGVA SVLAMLQLTT GGETQQQIQA AMGFKIDDKG MAPALRHLYK
ELMGPWNKDE ISTTDAIFVQ RDLKLVQGFM PHFFRLFRST VKQVDFSEVE RARFIINDWV KTHTKGMISN LLGKGAVDQL
TRLVLVNALY FNGQWKTPFP DSSTHRRLFH KSDGSTVSVP MMAQTNKFNY TEFTTPDGHY YDILELPYHG DTLSMFIAAP
YEKEVPLSAL TNILSAQLIS HWKGNMTRLP RLLVLPKFSL ETEVDLRKPL ENLGMTDMFR QFQADFTSLS DQEPLHVAQA
LQKVKIEVNE SGTVASSSTA VIVSARMAPE EIIMDRPFLF VVRHNPTGTV LFMGQVMEP

Source

E. coli

Purity

95%

Biological Activity

Determined by its inhibitory effect against single chain tPA induced cleavage of a chromogenic substrate in Imidazole Buffer at 37°C. Half maximal inhibition against 1.0 µg/ml of single chain tPA was obtained at a concentration of 2.0 µg/ml.

Endotoxin

Endotoxin level is <0.1 ng/µg of protein (<1EU/µg).

Reconstitution

Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.

Storage, Stability/Shelf Life

-20°C

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