



Recombinant Human PAI-1

20230516DS



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	100-424
Size:	10 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	5054
Synonyms:	Plasminogen Activator Inhibitor-1, Serpin E1

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, and 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 TNF α , 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.

Sequence

```
VHHPPSYVAH LASDFGVRVF QQVAQASKDR NNVFSPYGVA
SVLAMLQLTT GGETQQQIQ AAMGFKIDDKG MAPALRHLYK
ELMGPNKDE ISTTDAIFVQ RDLKLVQGF M P H F F R L F R S T
VKQVDFSEVE RARFIINDWV KTHTKGMIS N L L G K G A V D Q L
TRLVLVNALY FNGQWKTFPP DSSTHRRLFH KSDGSTVSVP
MMAQTNKFNY TEFTTPDGHY YDILELPYHG DTLSMFIAAP
YEKEVPLSAL TNILSAQLIS HWKGNMTRLP RLLVLPKFSL
ETEVDLRKPL ENLGMTDMFR QFQADF T S L S D Q E P L H V A Q A
LQKVKIEVNE SGTVASSSTA VIVSARMAPE EIIMDRPFLF
VVRHNPTGTV LFMGQVMEP
```

Database References

Protein RefSeq:	NP_000593.1
Uniprot ID:	P05121
mRNA RefSeq:	NM_000602.4

Product Specifications

Expressed in	E. coli
Purity	> 95% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	Lyophilized (10mM Sodium Phosphate, pH 7.5)
Length (aa):	379
MW:	42.7 kDa

Stability: The lyophilized protein is stable at room temperature for 1 month and at 4°C for 3 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 3 months at -20°C to -80°C.

Reconstitution: Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. 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.



AVOID REPEATED FREEZE AND THAW CYCLES!

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.