## Recombinant Human SerpinE1/PAI-1 Protein (His Tag)

Catalog No. PKSH031702

*Note:* Centrifuge before opening to ensure complete recovery of vial contents.

| Description                 |  |
|-----------------------------|--|
| Synonyms                    | Plasminogen Activator Inhibitor 1;PAI;PAI-1;Endothelial Plasminogen Activator<br>Inhibitor;Serpin E1;SERPINE1;PAI1;PLANH1;SERPINE1   |
| Species                     | Human  |
| Expression Host             | HEK293 Cells   |
| Sequence                    | Met 1-Pro 402  |
| Accession                   | NP_000593.1  |
| Calculated Molecular Weight | 44.2 kDa   |
| Observed molecular weight   | 45 kDa   |
| Tag                         | C-His  |
| Bioactivity                 | Measured by its ability to inhibit uPA cleavage of a peptide substrate, N-<br>carbobenzyloxy-Gly-Gly-Arg-7-amido-4-methylcoumarin (Z-GGR-AMC). The<br>IC50 value is < 60 nM.   |
| Properties                  |  |
| Purity                      | > 97 % as determined by reducing SDS-PAGE.   |
| Endotoxin                   | < 1.0 EU per $\mu$ g of the protein as determined by the LAL method.   |
| Storage                     | 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.          |
| 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<br>Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as<br>protectants before lyophilization.<br>Please refer to the specific buffer information in the printed manual. |
| Reconstitution              | Please refer to the printed manual for detailed information.   |
| Data                        |  |



> 97 % as determined by reducing SDS-PAGE.

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## Background

Plasminogen activator inhibitor 1, also known as PAI-1, 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-1 deficiency (PAI-1 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-1 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-1 has been associated with increased survival of cells and resistance to apoptosis. PAI-1 appears to influence apoptosis by decreasing cell adhesion (anoikis) as well as its effect on intracellular signaling.

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