

Technical Bulletin

Plasminogen Activator Inhibitor 1 (PAI-1) Human

Recombinant, expressed in *E. coli*

A8111

Storage Temperature: -20 °C

Synonyms: PAIE; PLANH1; Serpin E1 PAI-1; Serpine 1

Product Description

Plasminogen activator inhibitor 1 (PAI-1) protein belongs to the Serpin superfamily of serine protease inhibitors. It is the principal inhibitor of tissue plasminogen activator (tPA) and urokinase plasminogen activator (uPA), the activators of plasminogen, and therefore inhibits the fibrinolysis process. PAI is involved in extracellular matrix remodeling and has been implicated in processes like angiogenesis, chemotaxis, ovulation, and embryogenesis. PAI-1 is present in increased levels in various disease states such as a number of cancer forms, obesity and the metabolic syndrome.¹⁻¹²

This product is the active human PAI-1 protein with a molecular weight of ~43 kDa.

Product Profile

Purity: ≥ 90% by SDS-PAGE

Activity: ≥ 200,000 U/mg protein

Unit definition: 1 Unit irreversibly inhibits (100% inhibition) 1 Unit of tissue plasminogen activator (tPA) under physiological conditions (neutral pH and 37 °C).

This product is supplied as a lyophilized powder from a solution containing 0.5 M sodium chloride, 20 mM sodium acetate, and 50 mg/mL trehalose.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute with 0.25 mg/mL of ultrapure water. The reconstituted product contains 0.25 mg protein per mL in 0.5 M sodium chloride, 20 mM sodium acetate, and 50 mg/mL trehalose.

The solution should be left 15 minutes in RT until the it is clear.

Storage/Stability

Store the product at -20 °C. The product has a recommended retest date of 2 years, as supplied, properly stored, and unopened. After reconstitution, the enzyme should be refrozen at -70 °C in aliquots. The reconstituted product is stable for 1 month at -20 °C and for at least 2 months at -70 °C.

References

1. Stefansson, S. *et al.*, *Curr. Pharm. Des.*, **9(19)**: 1545-1564 (2003).
2. Saksela, O., and Rifkin, D.B., *Annu. Rev. Cell Biol.*, **4**: 93-126 (1988).
3. Collen, D., and Lijnen, H.R., *Blood*, **78(12)**: 3114-3124 (1991).
4. Vassalli, J.D. *et al.*, *J. Exp. Med.*, **159(6)**: 1653-1668 (1984).
5. Schmitt, M. *et al.*, *Biol. Chem. Hoppe Seyler*, **373(7)**: 611-622 (1992).
6. Gils, A., and Declerck, P.J., *Curr. Med. Chem.*, **11(17)**: 2323-2334 (2004).
7. Degryse, B. *et al.*, *FEBS Lett.*, **505(2)**: 249-254 (2001).
8. Stefansson, S. *et al.*, *J. Biol. Chem.*, **276(11)**: 8135-8141 (2001).
9. Durand, M.K. *et al.*, *Thromb. Haemost.*, **91(3)**: 438-449 (2004).
10. Harbeck, N. *et al.*, *Thromb. Haemost.*, **91(3)**: 450-456 (2004).
11. De Taeye, B. *et al.*, *Curr. Opin. Pharmacol.*, **5(2)**: 149-154 (2005).
12. Dellas, C., and Loskutoff, D.J., *Thromb. Haemost.*, **93(4)**: 631-640 (2005).

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Standard Warranty

The applicable warranty for the products listed in this publication may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

MilliporeSigma, and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

© 2021 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

A8111dat Rev 08/21

**MILLIPORE
SIGMA**