

Product Information

Tissue Plasminogen Activator human, recombinant expressed in Chinese Hamster Ovary Cells

Catalog Number **T5451**
Storage Temperature 2–8 °C

EC 3.4.21.68
Synonym: tPA

Product Description

Tissue Plasminogen Activator (tPA) is a protease of the S1 family (trypsin family) and is found in wide variety of mammalian tissues, especially endothelial cells. tPA is secreted as a single chain precursor, which is cleaved to a two-chain form by plasmin.¹ This product is supplied in the single chain form with a molecular mass of ~70 kDa.

The enzymatic activity of tPA is specific for the cleavage of the Arg-Val bond in plasminogen. *In vivo* tPA cleaves plasminogen to produce active plasmin. For this reason, tPA has been used for the fibrinolytic treatment of heart attacks and strokes.

Substrates:

Plasminogen (Catalog Number P5661) is the natural substrate.

Synthetic substrates:

Tissue plasminogen activator chromogenic substrate
(Catalog Number T2943)

D-Val-Leu-Lys 7-amido-4-methylcoumarin
(Catalog Number V3138)

D-Val-Leu-Lys 4-methoxy-2-naphthylamide
(Catalog Number V3263)

Inhibitor:

α_2 -Antiplasmin (Catalog Number A8849)

The product is supplied as powder containing 10 µg of tPA lyophilized from a 100 µg/ml solution containing 1 M NH₄HCO₄ and 1% bovine serum albumin.

Specific activity: ≥500,000 IU/mg of tPA

Activity is determined using a direct chromogenic assay using a NIBSC reference standard.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute with 100 µl of 1 M KHCO₃ with gentle mixing for 20 minutes at 25 °C. Subsequent dilutions should be made with a buffer containing 1% protease-free albumin.

Storage/Stability

The recommended storage temperature is 2–8 °C. Once reconstituted, store aliquots at –70 °C.

References

1. IUBMB: Enzyme Nomenclature
(<http://www.chem.qmul.ac.uk/iubmb/enzyme/EC3/4/21/68.html>)

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