

tPA (H-90): sc-15346

BACKGROUND

uPA (urokinase-type plasminogen activator) and tPA (tissue plasminogen activator) are serine proteases that are members of the trypsin family, and they are essential to the intrinsic coagulation system. tPA is primarily involved in fibrinolysis whereas uPA principally mediates cell migration and tissue remodeling processes. uPA and tPA are responsible for cleaving plasminogen, a large serum γ -globulin that is deposited on the Fibrin strands within a thrombus. uPA and tPA preferentially target plasminogen at the Arg-Val bond to produce plasmin (also designated fibrinolysin), which is a trypsin-like enzyme that acts on Arg-Lys bonds in fibrin and fibrinogen and contributes to the systematic activation of the coagulation cascade. uPA and tPA each consist of two chains that are designated A and B. The A chain of uPA can be cleaved, resulting in low and high molecular mass forms. uPA and tPA are regulated by the serpin family members, PAI-1 and PAI-2, which are serine proteinase inhibitors that complex with uPA, tPA and other targeted proteinases and then slowly disassociate to produce cleaved species that fold into stable inactive conformations.

CHROMOSOMAL LOCATION

Genetic locus: PLAT (human) mapping to 8p11.21; Plat (mouse) mapping to 8 A2.

SOURCE

tPA (H-90) is a rabbit polyclonal antibody raised against amino acids 1-90 of tPA of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

tPA (H-90) is recommended for detection of tPA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for tPA siRNA (h): sc-36705, tPA siRNA (m): sc-36706, tPA siRNA (r): sc-45948, tPA shRNA Plasmid (h): sc-36705-SH, tPA shRNA Plasmid (m): sc-36706-SH, tPA shRNA Plasmid (r): sc-45948-SH, tPA shRNA (h) Lentiviral Particles: sc-36705-V, tPA shRNA (m) Lentiviral Particles: sc-36706-V and tPA shRNA (r) Lentiviral Particles: sc-45948-V.

Molecular Weight of tPA: 67 kDa.

Positive Controls: rat pancreas extract: sc-364806 or mouse pancreas extract: sc-364244.

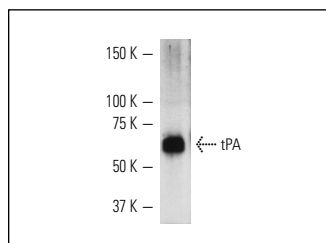
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

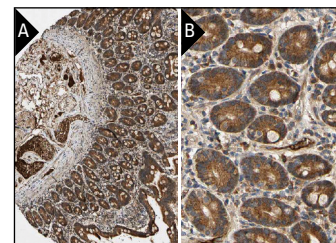
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



tPA (H-90): sc-15346. Western blot analysis of purified human tPA.



tPA (H-90): sc-15346. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

- Zhan, Y., et al. 2005. Ets-1 is a critical regulator of Ang II-mediated vascular inflammation and remodeling. *J. Clin. Invest.* 116: 2319-2322.
- Collinge, J.E., et al. 2005. Expression of tissue plasminogen activator during eye development. *Exp. Eye Res.* 81: 90-96.
- Lee, K.W., et al. 2009. Behavioral stress accelerates plaque pathogenesis in the brain of Tg2576 mice via generation of metabolic oxidative stress. *J. Neurochem.* 108: 165-175.
- Bruno, M.A., et al. 2009. Amyloid β -induced nerve growth factor dysmetabolism in Alzheimer disease. *J. Neuropathol. Exp. Neurol.* 68: 857-869.
- Xin, H., et al. 2010. Increasing tPA activity in astrocytes induced by multipotent mesenchymal stromal cells facilitate neurite outgrowth after stroke in the mouse. *PLoS ONE* 5: e9027.
- Favreau, F., et al. 2010. Anti-thrombin therapy during warm ischemia and cold preservation prevents chronic kidney graft fibrosis in a DCD model. *Am. J. Transplant.* 10: 30-39.
- Xin, H., et al. 2011. Multipotent mesenchymal stromal cells increase tPA expression and concomitantly decrease PAI-1 expression in astrocytes through the sonic hedgehog signaling pathway after stroke (*in vitro* study). *J. Cereb. Blood Flow Metab.* 31: 2181-2188.
- Krstic, D., et al. 2012. Regulated proteolytic processing of Reelin through interplay of tissue plasminogen activator (tPA), ADAMTS-4, ADAMTS-5, and their modulators. *PLoS ONE* 7: e47793.



Try **tPA (D-1): sc-515562** or **tPA (UK98/6): sc-69740**, our highly recommended monoclonal alternatives to tPA (H-90).