

uPA (M-20): sc-6831

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 β -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: PLAU (human) mapping to 10q22.2; Plau (mouse) mapping to 14 A3.

SOURCE

uPA (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of uPA of rat origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6831 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

uPA (M-20) is recommended for detection of β -chain and inactive 52 kDa precursor forms of uPA 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for uPA siRNA (h): sc-36779, uPA siRNA (m): sc-36780, uPA shRNA Plasmid (h): sc-36779-SH, uPA shRNA Plasmid (m): sc-36780-SH, uPA shRNA (h) Lentiviral Particles: sc-36779-V and uPA shRNA (m) Lentiviral Particles: sc-36780-V.

Molecular Weight of uPA precursor: 55 kDa.

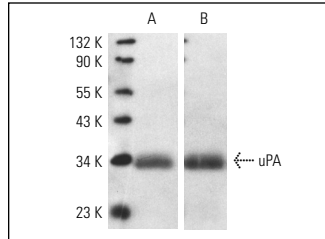
Molecular Weight of active uPA enzyme: 33 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224 or MCF7 whole cell lysate: sc-2206.

STORAGE

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

DATA



Western blot analysis of authentic human uPA (A,B). Antibodies tested include uPA (C-20): sc-6830 (A) and uPA (M-20): sc-6831 (B).

SELECT PRODUCT CITATIONS

- Mizuyachi, K., et al. 2002. Alteration in ovarian gene expression in response to 2,3,7,8-tetrachlorodibenzo-p-dioxin: reduction of cyclooxygenase-2 in the blockage of ovulation. *Reprod. Toxicol.* 16: 299-307.
- Weinmann, M., et al. 2002. Expression pattern of the urokinase-plasminogen activator system in rat DS-sarcoma: role of oxygenation status and tumour size. *Br. J. Cancer* 86: 1355-1361.
- Burggraf, D., et al. 2004. Rt-PA causes a significant increase in endogenous uPA during experimental focal cerebral ischemia. *Eur. J. Neurosci.* 20: 2903-2908.
- Behren, A., et al. 2005. The p38 SAPK pathway is required for Ha-Ras induced *in vitro* invasion of NIH/3T3 cells. *Exp. Cell Res.* 303: 321-330.
- Lahtinen, L., et al. 2006. Increased expression and activity of urokinase-type plasminogen activator during epileptogenesis. *Eur. J. Neurosci.* 24: 1935-1945.
- Zhang, B., et al. 2012. The calcineurin-NFAT pathway allows for urokinase receptor-mediated β 3 integrin signaling to cause podocyte injury. *J. Mol. Med.* 90: 1407-1420.
- Long, Y., et al. 2013. Neurotoxicity of perfluorooctane sulfonate to hippocampal cells in adult mice. *PLoS ONE* 8: e54176.

RESEARCH USE

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



Try **uPA (H77A10): sc-59727** or **uPA (PGM2005): sc-59729**, our highly recommended monoclonal alternatives to uPA (M-20).