SANTA CRUZ BIOTECHNOLOGY, INC.

# uPA (PGM2005): sc-59729

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

uPA (urokinase-type plasminogen activator) and tPA (tissue plasminogen activator), which are serine proteases and members of the trypsin family, 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.

## REFERENCES


1. Riccio, A., et al. 1985. The human urokinase-plasminogen activator gene and its promoter. Nucleic Acids Res. 13: 2759-2771.
2. Degen, S.J., et al. 1986. The human tissue plasminogen activator gene. J. Biol. Chem. 261: 6972-6985.
3. Milligan, K.S. 1987. Tissue-type plasminogen activator: a new fibrinolytic agent. Heart Lung 16: 69-74.
4. Loscalzo, J., et al. 1988. Tissue plasminogen activator. N. Engl. J. Med. 319: 925-931.
5. Cheng, X.F., et al. 1992. Binding of tissue plasminogen activator to human endothelial cells. Importance of the B-chain as a ligand. Biochem. J. 287: 407-413.
6. Prentice, C.R., et al. 1993. The fibrinolytic response to ancrod therapy: characterization of Fibrinogen and Fibrin degradation products. Br. J. Haematol. 83: 276-281.
7. Schaefer, B.M., et al. 1995. Differential expression of urokinase-type plasminogen activator (uPA), its receptor (uPA-R), and inhibitor type-2 (PAI-2) during differentiation of keratinocytes in an organotypic coculture system. Exp. Cell Res. 220: 415-423.


## CHROMOSOMAL LOCATION

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

## SOURCE

uPA (PGM2005) is a mouse monoclonal antibody raised against urinary Urokinase of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

uPA (PGM2005) is recommended for detection of uPA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with other serine proteases.

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 uPA active enzyme: 33 kDa.

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

## SELECT PRODUCT CITATIONS


1. Padrissa-Altés, S., et al. 2010. Matrix metalloproteinase 2 in reduced-size liver transplantation: beyond the matrix. Am. J. Transplant. 10: 1167-1177.
2. Ge, L., et al. 2016. MicroRNA-497 suppresses osteosarcoma tumor growth *in vitro* and *in vivo*. Oncol. Lett. 11: 2207-2212.
3. Yin, X., et al. 2018. Diallyl disulfide inhibits the metastasis of type II esophageal-gastric junction adenocarcinoma cells via NFκB and PI3K/AKT signaling pathways *in vitro*. Oncol. Rep. 39: 784-794.
4. Viedma-Rodríguez, R., et al. 2020. Epithelial mesenchymal transition and progression of breast cancer promoted by diabetes mellitus in mice are associated with increased expression of glycolytic and proteolytic enzymes. Horm. Cancer 11: 170-181.
5. Li, W., et al. 2021. RelB promotes the migration and invasion of prostate cancer DU145 cells via exosomal ICAM1 *in vitro*. Cell. Signal. 91: 110221.


## 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.

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.