SANTA CRUZ BIOTECHNOLOGY, INC.

tPA (C-16): sc-5239

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

SOURCE

tPA (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of tPA of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-5239 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

tPA (C-16) 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 µg per 100-500 µg 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). tPA (C-16) is also recommended for detection of tPA in additional species, including equine, canine and porcine.

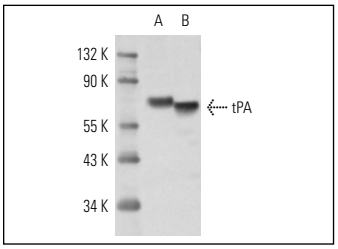
Suitable for use as control antibody for tPA siRNA (h): sc-36705, tPA siRNA (m): sc-36706, tPA siRNA (r): sc-45948, tPA shRNA Plasmid (h): sc-36705-SH, tPA shRNA Plasmid (m): sc-36706-SH, tPA shRNA Plasmid (r): sc-45948-SH, tPA shRNA (h) Lentiviral Particles: sc-36705-V, tPA shRNA (m) Lentiviral Particles: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

Molecular Weight of tPA: 67 kDa.

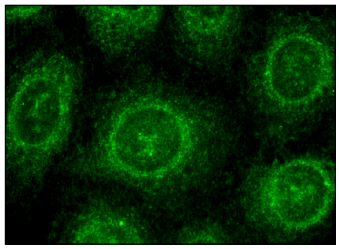
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



tPA (C-16): sc-5239. Western blot analysis of tPA expression in rat pancreas (**A**) and mouse pancreas (**B**) tissue extracts.



tPA (C-16): sc-5239. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. 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.
2. Parlee, S.D., et al. 2012. Elastase and tryptase govern TNFα-mediated production of active chemerin by adipocytes. PLoS ONE 7: e51072.
3. Dung, T.D., et al. 2013. Suppression of plasminogen activators and the MMP-2/-9 pathway by a *Zanthoxylum avicennae* extract to inhibit the HA22T human hepatocellular carcinoma cell migration and invasion effects *in vitro* and *in vivo* via phosphatase 2A activation. Biosci. Biotechnol. Biochem. 77: 1814-1821.
4. Hsu, H.H., et al. 2014. Estradiol agonists inhibit human LoVo colorectal-cancer cell proliferation and migration through p53. World J. Gastroenterol. 20: 16665-16673.

STORAGE

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

MONOS Satisfaction Guaranteed

Try **tPA (D-1): sc-515562** or **tPA (UK98/6): sc-69740**, our highly recommended monoclonal alternatives to tPA (C-16).