SANTA CRUZ BIOTECHNOLOGY, INC.

PAI-1 (TJA6): sc-59636



BACKGROUND

PAI-1 and PAI-2 (for plasminogen activator inhibitor-1 and -2) are members of the serpin serine proteinase inhibitor family. PAI-1 and PAI-2 have been shown to regulate uPA (urokinase-type plasminogen activator) and tPA (tissue plasminogen activator), resulting in the inhibition of proteolytic activity. Members of the serpin family generally complex with their target proteinases, then disassociate slowly into cleaved species that fold into stable inactive forms. PAI-1 can fold into the inactive state without cleavage, resulting in the latent form of PAI-1. Activity can be restored to the latent form of PAI-1 through denaturation and renaturation. PAI-2 occurs in secreted and cytosolic forms through facultative polypeptide translocation. uPA is a serine proteinase that is a member of the trypsin family. It is responsible for the cleavage of plasminogen at the Arg-Val bond to produce plasmin. uPA consists of two chains designated A and B. The A chain can be cleaved, resulting in low and high molecular mass forms of uPA.

REFERENCES

- Riccio, A., et al. 1985. The human urokinase-plasminogen activator gene and its promoter. Nucl. Acids Res. 13: 2759-2771.
- Belin, D., et al. 1989. Facultative polypeptide translocation allows a single mRNA to encode the secreted and cytosolic forms of plasminogen activators inhibitor 2. EMBO J. 8: 3287-3294.
- Schmitt, M., et al. 1991. Human tumor cell urokinase-type plasminogen activator (uPA): degradation of the proenzyme form (pro-uPA) by granulocyte elastase prevents subsequent activation by plasmin. Adv. Exp. Med. Biol. 297: 111-128.
- Mottonen, J., et al. 1992. Structural basis of latency in plasminogen activator inhibitor-1. Nature 355: 270-273.
- Niedbala, M.J. 1993. Cytokine regulation of endothelial cell extracellular proteolysis. Agents Actions Suppl. 42: 179-193.

CHROMOSOMAL LOCATION

Genetic locus: SERPINE1 (human) mapping to 7q22.1.

SOURCE

PAI-1 (TJA6) is a mouse monoclonal antibody raised against amino acids 1-250 of PAI-1 of human origin.

PRODUCT

Each vial contains 250 μl culture supernatant containing lgG_{2b} with <0.1% sodium azide.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/ thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

APPLICATIONS

PAI-1 (TJA6) is recommended for detection of PAI-1 of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:50-1:500).

Suitable for use as control antibody for PAI-1 siRNA (h): sc-36179, PAI-1 shRNA Plasmid (h): sc-36179-SH and PAI-1 shRNA (h) Lentiviral Particles: sc-36179-V.

Molecular Weight of PAI-1: 50 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180 or PAI-1 (h): 293 Lysate: sc-111254.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker[™] compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-2017 mouse IgG Staining Systems.

DATA





PAI-1 (TJA6): sc-59636. Western blot analysis of PAI-1 expression in non-transfected: sc-110760 (A) and human PAI-1 transfected: sc-111254 (B) 293 whole cell lysates. PAI-1 (TJA6): sc-59636. Western blot analysis of human PAI-1 expression in HUV-EC-C whole cell lysate.

SELECT PRODUCT CITATIONS

 Sinclair, D.C., et al. 2011. Leiomyoma simultaneously impair endometrial BMP-2-mediated decidualization and anticoagulant expression through secretion of TGF-β3. J. Clin. Endocrinol. Metab. 96: 412-421.

RESEARCH USE

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