SANTA CRUZ BIOTECHNOLOGY, INC.

uPA siRNA (h): sc-36779

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.

CHROMOSOMAL LOCATION

Genetic locus: PLAU (human) mapping to 10q22.2.

PRODUCT

uPA siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see uPA shRNA Plasmid (h): sc-36779-SH and uPA shRNA (h) Lentiviral Particles: sc-36779-V as alternate gene silencing products.

For independent verification of uPA (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-36779A, sc-36779B and sc-36779C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

uPA siRNA (h) is recommended for the inhibition of uPA expression in human cells.

PROTOCOLS

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

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

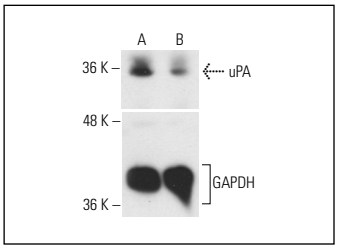
GENE EXPRESSION MONITORING

uPA (H77A10): sc-59727 is recommended as a control antibody for monitoring of uPA gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor uPA gene expression knockdown using RT-PCR Primer: uPA (h)-PR: sc-36779-PR (20 µl, 366 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



uPA siRNA (h): sc-36779. Western blot analysis of uPA expression in non-transfected control (**A**) and uPA siRNA transfected (**B**) HeLa cells. Blot probed with uPA (H-140): sc-14019. GAPDH (FL-335): sc-25778 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Kong, D., et al. 2007. Inhibition of angiogenesis and invasion by 3,3'-diindolylmethane is mediated by the nuclear factor-κB downstream target genes MMP-9 and uPA that regulated bioavailability of vascular endothelial growth factor in prostate cancer. Cancer Res. 67: 3310-3319.
2. Liu, P., et al. 2016. Quantitative secretomic analysis of pancreatic cancer cells in serum-containing conditioned medium. Sci. Rep. 6: 37606.
3. Montt-Guevara, M.M., et al. 2017. Regulatory effects of estetrol on the endothelial plasminogen pathway and endothelial cell migration. Maturitas 99: 1-9.

RESEARCH USE

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