

PAI-3 siRNA (h): sc-45416

BACKGROUND

PAI-1, PAI-2 and PAI-3 (plasminogen activator inhibitor-1, -2 and -3) are members of the serpin serine proteinase inhibitor family. PAI-1 and PAI-2 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. PAI-3 inhibits plasminogen activators as well as activated protein C. It is secreted in plasma, but is also expressed in liver.

REFERENCES

1. Riccio, A., et al. 1985. The human urokinase-plasminogen activator gene and its promoter. *Nucleic Acids Res.* 13: 2759-2771.
2. Belin, D., et al. 1989. Facultative polypeptide translocation allows a single mRNA to encode the secreted and cytosolic forms of PLI2. *EMBO J.* 8: 3287-3294.
3. 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.
4. Mottonen, J., et al. 1992. Structural basis of latency in PAI-1. *Nature* 355: 270-273.
5. Niedbala, M.J., et al. 1993. Cytokine regulation of endothelial cell extracellular proteolysis. *Agents Actions Suppl.* 42: 179-193.
6. 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.
7. SWISS-PROT/TrEMBL (P05154). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: SERPINA5 (human) mapping to 14q32.13.

PRODUCT

PAI-3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PAI-3 shRNA Plasmid (h): sc-45416-SH and PAI-3 shRNA (h) Lentiviral Particles: sc-45416-V as alternate gene silencing products.

For independent verification of PAI-3 (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-45416A, sc-45416B and sc-45416C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PAI-3 siRNA (h) is recommended for the inhibition of PAI-3 expression in human cells.

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 μ M in 66 μ l. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PAI-3 gene expression knockdown using RT-PCR Primer: PAI-3 (h)-PR: sc-45416-PR (20 μ l, 576 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.