

α -2 antiplasmin siRNA (h): sc-61924

BACKGROUND

The serine proteinase inhibitors (serpins) comprise a superfamily of proteins with a diverse set of functions, including the control of blood coagulation, complement activation, programmed cell death and development. Serpins are secreted glycoproteins that contain a stretch of peptide that mimics a true substrate for a corresponding serine protease. α -2 antiplasmin (also referred to as α -2-AP or α -2-plasmin inhibitor) is a member of the serpin family that inhibits plasmin. It is the most potent and rapidly acting of the plasmin inhibitors and is thought to play a key role in the regulation of fibrinolysis and degradation of various other proteins. α -2 antiplasmin interferes with the binding of plasminogen to Fibrin because lysine residues in its carboxy-terminal region compete with those in Fibrin. As plasmin degrades blood clots, impaired activity of α -2 antiplasmin leads to a bleeding tendency.

REFERENCES

1. Lijnen, H.R., et al. 2000. α -2 antiplasmin gene deficiency in mice does not affect neointima formation after vascular injury. *Arterioscler. Thromb. Vasc. Biol.* 20: 1488-1492.
2. Lee, K.N., et al. 2001. Crosslinking of α -2 antiplasmin to Fibrin. *Ann. N.Y. Acad. Sci.* 936: 335-339.
3. Lijnen, H.R., et al. 2001. Inactivation of the serpin α -2 antiplasmin by stromelysin-1. *Biochim. Biophys. Acta* 1547: 206-213.
4. Ries, M., et al. 2002. Differences between neonates and adults in carbohydrate sequences and reaction kinetics of plasmin and α -2 antiplasmin. *Thromb. Res.* 105: 247-256.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 262850. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Matsuno, H., et al. 2003. Lack of α -2 antiplasmin promotes re-endothelialization via over-release of VEGF after vascular injury in mice. *Blood* 102: 3621-3628.
7. Hrynko, T.V., et al. 2006. Inhibition with fibrin, DDE-complex, and D-dimer using α -2 antiplasmin. *Ukr. Biokhim. Zh.* 77: 45-51.

CHROMOSOMAL LOCATION

Genetic locus: SERPINF2 (human) mapping to 17p13.3.

PRODUCT

α -2 antiplasmin 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 α -2 antiplasmin shRNA Plasmid (h): sc-61924-SH and α -2 antiplasmin shRNA (h) Lentiviral Particles: sc-61924-V as alternate gene silencing products.

For independent verification of α -2 antiplasmin (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-61924A, sc-61924B and sc-61924C.

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

α -2 antiplasmin siRNA (h) is recommended for the inhibition of α -2 antiplasmin 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.

GENE EXPRESSION MONITORING

α -2 antiplasmin (C-7): sc-515771 is recommended as a control antibody for monitoring of α -2 antiplasmin 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).

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor α -2 antiplasmin gene expression knockdown using RT-PCR Primer: α -2 antiplasmin (h)-PR: sc-61924-PR (20 μ l). 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.