SANTA CRUZ BIOTECHNOLOGY, INC.

α-2 antiplasmin siRNA (m): sc-61925

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. Hrynenko, T.V., et al. 2006. Inhibition with fibrin, DDE-complex, and D-dimer using a-2-antiplasmin. Ukr. Biokhim. Zh. 77: 45-51.

CHROMOSOMAL LOCATION

Genetic locus: Serpinf2 (mouse) mapping to 11 B5.

PRODUCT

α-2 antiplasmin siRNA (m) 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 α-2 antiplasmin shRNA Plasmid (m): sc-61925-SH and α-2 antiplasmin shRNA (m) Lentiviral Particles: sc-61925-V as alternate gene silencing products.

For independent verification of α-2 antiplasmin (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61925A, sc-61925B and sc-61925C.

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

α-2 antiplasmin siRNA (m) is recommended for the inhibition of α-2 antiplasmin expression in mouse 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 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

α-2 antiplasmin (MAP25C3): sc-59642 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 (m)-PR: sc-61925-PR (20 µl). 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.