SANTA CRUZ BIOTECHNOLOGY, INC.

S-100A10 siRNA (m): sc-60023

BACKGROUND

The S-100 family of calcium-activated proteins interact with a range of target proteins to modulate biological signaling pathways. Numerous cancer cell lines overexpress the plasminogen receptor S-100A10 on the extracellular cell surface, where it forms a heterotetrameric complex with Annexin II, though this association is not required for plasma membrane localization or binding and activation of plasminogen. Additionally, S-100A10 acts as a cellular chaperone for hepatitis B (Hep B) virus polymerase. Hep B virus polymerase normally localizes to the cytoplasm only, though in the presence of S-100A10 a portion relocates to the nucleus, implying a role for S-100A10 and intracellular calcium in the process of viral replication.

REFERENCES

1. Gattaz, W.F., et al. 2000. Decreased S-100 β protein in schizophrenia: preliminary evidence. Schizophr. Res. 43: 91-5.
2. Ruse, M., et al. 2001. S-100A7, S-100A10, and S-100A11 are transglutaminase substrates. Biochemistry 40: 3167-3173.
3. El-Rifai, W., et al. 2002. Gastric cancers overexpress S-100A calcium-binding proteins. Cancer Res. 62: 6823-6826.
4. Broome, A.M., et al. 2003. S-100 protein subcellular localization during epidermal differentiation and psoriasis. J. Histochem. Cytochem. 51: 675-685.
5. Choi, J., et al. 2003. Association of hepatitis B virus polymerase with promyelocytic leukemia nuclear bodies mediated by the S-100 family protein p11. Biochem. Biophys. Res. Commun. 305: 1049-1056.
6. Daub, B., et al. 2003. Expression of members of the S-100 Ca^{2+}-binding protein family in guinea-pig smooth muscle. Cell Calcium 33: 1-10.
7. Eckert, R.L., et al. 2004. S-100 proteins in the epidermis. J. Invest. Dermatol. 123: 23-33.
8. Zhang, L., et al. 2004. RNA interference-mediated silencing of the S-100A10 gene attenuates plasmin generation and invasiveness of Colo 222 colorectal cancer cells. J. Biol. Chem. 279: 2053-2062.

CHROMOSOMAL LOCATION

Genetic locus: S100a10 (mouse) mapping to 3 F2.1.

PRODUCT

S-100A10 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 S-100A10 shRNA Plasmid (m): sc-60023-SH and S-100A10 shRNA (m) Lentiviral Particles: sc-60023-V as alternate gene silencing products.

For independent verification of S-100A10 (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-60023A, sc-60023B and sc-60023C.

RESEARCH USE

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

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

S-100A10 siRNA (m) is recommended for the inhibition of S-100A10 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor S-100A10 gene expression knockdown using RT-PCR Primer: S-100A10 (m)-PR: sc-60023-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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