SANTA CRUZ BIOTECHNOLOGY, INC.

S-100A14 siRNA (m): sc-61487

BACKGROUND

The S-100 protein family consists of a group of calcium-binding proteins, which exhibit cell and tissue-specific expression. The expression levels of its members differ in various pathological conditions. The extracellular functions of the S-100 family may include the ability to enhance neurite outgrowth, involvement in inflammation, and motility of tumor cells. S100 calcium binding protein A14 (S-100A14), a member of the S-100 protein family, is expressed highest in the colon and moderately in the thymus, kidney, liver, small intestine and lung. Low expression of S-100A14 is observed in the heart, while no detection is seen in brain, skeletal muscle, spleen, placenta and peripheral blood leukocytes. S-100A14 is a 104-amino acid protein that is 68% homologous to the S-100A13 protein. It contains two EF-hand Ca^{2+}-binding domains, a myristoylation motif, a glycosylation site, and several potential protein kinase phosphorylation sites.

REFERENCES

1. ietas, A., et al. 2002. Molecular cloning and characterization of the human S100A14 gene encoding a novel member of the S100 family. Genomics 79: 513-522.
2. POnline Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607986. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Adam, P.J., et al. 2003. Comprehensive proteomic analysis of breast cancer cell membranes reveals unique proteins with potential roles in clinical cancer. J. Biol. Chem. 278: 6482-6489.
4. Ji, J., et al. 2004. Differential expression of S100 gene family in human esophageal squamous cell carcinoma. J. Cancer Res. Clin. Oncol. 130: 480-486.
5. Smirnov, D.A., et al. 2005. Global gene expression profiling of circulating tumor cells. Cancer Res. 65: 4993-4997.
6. Zimmer, D.B., et al. 2005. S100-mediated signal transduction in the nervous system and neurological diseases. Cell. Mol. Biol. 51: 201-214.

CHROMOSOMAL LOCATION

Genetic locus: S100a14 (mouse) mapping to 3 F1.

PRODUCT

S-100A14 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-100A14 shRNA Plasmid (m): sc-61487-SH and S-100A14 shRNA (m) Lentiviral Particles: sc-61487-V as alternate gene silencing products.

For independent verification of S-100A14 (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-61487A, sc-61487B and sc-61487C.

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-100A14 siRNA (m) is recommended for the inhibition of S-100A14 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-100A14 gene expression knockdown using RT-PCR Primer: S-100A14 (m)-PR: sc-61487-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.