SANTA CRUZ BIOTECHNOLOGY, INC.

S-100A2 siRNA (h): sc-63353

BACKGROUND

S-100A2 (S100L), first isolated from bovine lung, belongs to a large family of calcium binding proteins known as S-100 proteins. S-100A2 is expressed in the basal layer of the epidermis and hair follicles of normal skin. S-100A2 associates with tropomyosin in a calcium-dependent manner. In breast cancer, S-100A2 expression is lost during the development of malignant cells. S-100A2 may play a tumor-suppressor role in certain epithelial tissues by intefering with cell migration. S-100A2 exerts an inhibitory influence on cell motility of head and neck squamous cell carnicomas *in vitro*. Neoplastic gastric epithelial cells express S-100A2 as well as S-100A7, S-100A8, S-100A9 and S-100A10 in greater abundance than normal gastric cells.

REFERENCES

1. Glenney, J.R., Jr., et al. 1989. Isolation of a new member of the S-100 protein family: amino acid sequence, tissue and subcellular distribution. J. Cell Biol. 108: 569-578.
2. Boni, R., et al. 1997. Immunohistochemical localization of the Ca^{2+} binding S-100 proteins in normal human skin and melanocytic lesions. Br. J. Dermatol. 137: 39-43.
3. Gimona, M., et al. 1997. Ca^{2+}-dependent interaction of S-100A2 with muscle and nonmuscle tropomyosins. J. Cell Sci. 110: 611-621.
4. Liu, D., et al. 2000. Expression of calcium-binding protein S-100A2 in breast lesions. Br. J. Cancer 83: 1473-1479.
5. Nagy, N., et al. 2001. S-100A2, a putative tumor suppressor gene, regulates *in vitro* squamous cell carcinoma migration. Lab. Invest. 81: 599-612.
6. El-Rifai, W., et al. 2002. Gastric cancers overexpress S-100A calcium-binding proteins. Cancer Res. 62: 6823-6826.

CHROMOSOMAL LOCATION

Genetic locus: S100A2 (human) mapping to 1q21.3.

PRODUCT

S-100A2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see S-100A2 shRNA Plasmid (h): sc-63353-SH and S-100A2 shRNA (h) Lentiviral Particles: sc-63353-V as alternate gene silencing products.

For independent verification of S-100A2 (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-63353A, sc-63353B and sc-63353C.

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.

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-100A2 siRNA (h) is recommended for the inhibition of S-100A2 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 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

S-100A2 (SH-L1): sc-58844 is recommended as a control antibody for monitoring of S-100A2 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor S-100A2 gene expression knockdown using RT-PCR Primer: S-100A2 (h)-PR: sc-63353-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.