SANTA CRUZ BIOTECHNOLOGY, INC.

S-100A5 siRNA (m): sc-153189

BACKGROUND

The S-100 proteins are small calcium-binding proteins which display different expression patterns in human tissues. Some S-100 proteins are associated with tumor development and the metastatic behavior of tumors. S-100A5 (S100 calcium binding protein A5) is a 92 amino acid protein that belongs to the S-100 family. Containing two EF-hand domains, S-100A5 binds calcium, zinc and copper. One subunit can simultaneously bind two calcium ions or two copper ions plus one zinc ion. Calcium and copper ions compete for the same binding sites on the S-100A5 protein. The S-100A5 protein is expressed in very restricted regions of the adult brain. The S-100A5 gene is conserved in chimpanzee, canine, bovine, mouse and rat, and maps to human chromosome 1q21.3. S100 genes include at least 13 members which are located as a cluster on chromosome 1q21. Due to the clustered organization of the S-100 proteins a new logical nomenclature based on their physical arrangement on the chromosome has been described, with S-100A1 being closest to the telomere and S-100A9 being closest to the centromere.

REFERENCES

1. Engelkamp, D., et al. 1993. Six S100 genes are clustered on human chromosome 1q21: identification of two genes coding for the two previously unreported calcium-binding proteins S100D and S100E. Proc. Natl. Acad. Sci. USA 90: 6547-6551.
2. Online Mendelian Inheritance in Man, OMIM™. 1993. Johns Hopkins University, Baltimore, MD. MIM Number: 176991. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Schäfer, B.W., et al. 1995. Isolation of a YAC clone covering a cluster of nine S100 genes on human chromosome 1q21: rationale for a new nomenclature of the S100 calcium-binding protein family. Genomics 25: 638-643.
4. Schäfer, B.W. and Heizmann, C.W. 1996. The S100 family of EF-hand calcium-binding proteins: functions and pathology. Trends Biochem. Sci. 21: 134-140.
5. Ridinger, K., et al. 1998. Clustered organization of S100 genes in human and mouse. Biochim. Biophys. Acta 1448: 254-263.
6. Schäfer, B.W., et al. 2000. Brain S100A5 is a novel calcium-, zinc-, and copper ion-binding protein of the EF-hand superfamily. J. Biol. Chem. 275: 30623-30630.

CHROMOSOMAL LOCATION

Genetic locus: S100a5 (mouse) mapping to 3 F1.

PRODUCT

S-100A5 siRNA (m) is a pool of 2 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-100A5 shRNA Plasmid (m): sc-153189-SH and S-100A5 shRNA (m) Lentiviral Particles: sc-153189-V as alternate gene silencing products.

For independent verification of S-100A5 (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-153189A and sc-153189B.

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-100A5 siRNA (m) is recommended for the inhibition of S-100A5 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.

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.