SANTA CRUZ BIOTECHNOLOGY, INC.

S-100A16 siRNA (h): sc-88602

BACKGROUND

The S-100 protein family consists of a group of calcium-binding proteins that are exclusively expressed in vertebrates and 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. S-100A16 (S100 calcium binding protein A16), also known as AAG13 (aging-associated gene 13 protein), S100F or DT1P1A7, is a 103 amino acid nuclear and cytoplasmic protein that exists as a homodimer that binds one calcium ion per monomer. A member of the EF-hand superfamily, S-100A16 contains two EF-hand domains and is encoded by a gene that maps to human chromosome 1q21.3.

REFERENCES

1. Donato, R. 1999. Functional roles of S100 proteins, calcium-binding proteins of the EF-hand type. Biochim. Biophys. Acta 1450: 191-231.
2. Zimmer, D.B., et al. 2003. Molecular mechanisms of S100-target protein interactions. Microsc. Res. Tech. 60: 552-559.
3. Marenholz, I. and Heizmann, C.W. 2004. S-100A16, a ubiquitously expressed EF-hand protein which is up-regulated in tumors. Biochem. Biophys. Res. Commun. 313: 237-244.
4. Marenholz, I., et al. 2004. S100 proteins in mouse and man: from evolution to function and pathology (including an update of the nomenclature). Biochem. Biophys. Res. Commun. 322: 1111-1122.
5. Santamaria-Kisiel, L., et al. 2006. Calcium-dependent and -independent interactions of the S100 protein family. Biochem. J. 396: 201-214.

CHROMOSOMAL LOCATION

Genetic locus: S100A16 (human) mapping to 1q21.3.

PRODUCT

S-100A16 siRNA (h) 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-100A16 shRNA Plasmid (h): sc-88602-SH and S-100A16 shRNA (h) Lentiviral Particles: sc-88602-V as alternate gene silencing products.

For independent verification of S-100A16 (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-88602A and sc-88602B.

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-100A16 siRNA (h) is recommended for the inhibition of S-100A16 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-100A16 (G-7): sc-390151 is recommended as a control antibody for monitoring of S-100A16 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 S-100A16 gene expression knockdown using RT-PCR Primer: S-100A16 (h)-PR: sc-88602-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wang, C., et al. 2019. S-100A16 regulated by Snail promotes the chemoresistance of nonmuscle invasive bladder cancer through the Akt/Bcl-2 pathway. Cancer Manag. Res. 11: 2449-2456.

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.