SANTA CRUZ BIOTECHNOLOGY, INC.

S-100P siRNA (h): sc-61488

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

S-100 proteins are small dimeric members of the EF-Hand superfamily that participate in moderating intracellular calcium signals by binding to and regulating specific proteins in a calcium-dependent manner. S-100P is a survival factor that is associated with different types of tumors and can bind and regulate effector proteins. R1881, a synthetic androgen, regulates S-100P expression. S-100P interacts with a receptor for advanced glycation end products (RAGE) and activates it, thereby increasing the rates of cell growth, division, migration and invasion. This suggests that S-100P acts in an auto-crine manner through RAGE to trigger cell proliferation and survival. S-100P may also positively affect anchorage-independent growth to improve tumor formation. S-100P monomers strongly interact with one another, but not with other S-100 polypeptides, suggesting that homodimer formation is necessary for S-100P to function. The S-100P dimers are then stabilized by hydrophobic contacts.

REFERENCES

1. Averboukh, L., et al. 1997. Regulation of S-100P expression by androgen. Prostate 29: 350-355.
2. Koltzscher, M. and Gerke, V. 2000. Identification of hydrophobic amino acid residues involved in the formation of S-100P homodimers *in vivo*. Biochemistry 39: 9533-9539.
3. Gribenko, A.V., et al. 2002. Conformational and thermodynamic properties of peptide binding to the human S-100P protein. Protein Sci. 11: 1367-1375.
4. Arumugam, T., et al. 2004. S-100P stimulates cell proliferation and survival via receptor for activated glycation end products (RAGE). J. Biol. Chem. 279: 5059-5065.

CHROMOSOMAL LOCATION

Genetic locus: S100P (human) mapping to 4p16.1.

PRODUCT

S-100P 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-100P shRNA Plasmid (h): sc-61488-SH and S-100P shRNA (h) Lentiviral Particles: sc-61488-V as alternate gene silencing products.

For independent verification of S-100P (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-61488A, sc-61488B and sc-61488C.

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-100P siRNA (h) is recommended for the inhibition of S-100P 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-100P (B-10): sc-374547 is recommended as a control antibody for monitoring of S-100P 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-100P gene expression knockdown using RT-PCR Primer: S-100P (h)-PR: sc-61488-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. Gibadulinova, A., et al. 2016. Cancer-associated S100P protein binds and inactivates p53, permits therapy-induced senescence and supports chemoresistance. Oncotarget 7: 22508-22522.

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.