SANTA CRUZ BIOTECHNOLOGY, INC.

AJAP1 siRNA (m): sc-140969

BACKGROUND

Shrew-1, also known as AJAP1 (adherens junctions associated protein 1), is a 411 amino acid single-pass type III membrane protein that plays a role in inhibiting glioma cell adhesion and cell migration. Shrew-1 is expressed, at protein level, in uterus and pancreas, and preferentially in tissues of early development, specifically adheren junctions. Shrew-1 forms a complex with CDH1 and CTNNB1 by interacting directly with CTNNB1. Shrew-1 interacts with AP1M2 and BSG/CD147. Localization of shrew-1 is mediated by AP1M2. It has been suggested that shrew-1 may be a tumor suppressor whose function can be attenuated by a loss in copy number and a decrease in expression. The shrew-1 gene is conserved in chimpanzee, canine, bovine, mouse and zebrafish, and maps to human chromosome 1p36.32. Deletions in the 1p36 region have been found in neuroblastomas.

REFERENCES

1. Dong, Z., Pang, J.S., Ng, M.H., Poon, W.S., Zhou, L. and Ng, H.K. 2004. Identification of two contiguous minimally deleted regions on chromosome 1p36.31-p36.32 in oligodendroglial tumours. Br. J. Cancer 91: 1105-1111.
2. Bharti, S., Handrow-Metzmacher, H., Zickenheiner, S., Zeitvogel, A., Baumann, R. and Starzinski-Powitz, A. 2004. Novel membrane protein shrew-1 targets to cadherin-mediated junctions in polarized epithelial cells. Mol. Biol. Cell 15: 397-406.
3. White, P.S., Thompson, P.M., Gotoh, T., Okawa, E.R., Igarashi, J., Kok, M., Winter, C., Gregory, S.G., Hogarty, M.D., Maris, J.M. and Brodeur, G.M. 2005. Definition and characterization of a region of 1p36.3 consistently deleted in neuroblastoma. Oncogene 24: 2684-2694.
4. Jakob, V., Schreiner, A., Tikkanen, R. and Starzinski-Powitz, A. 2006. Targeting of transmembrane protein shrew-1 to adherens junctions is controlled by cytoplasmic sorting motifs. Mol. Biol. Cell 17: 3397-3408.
5. Gregory, S.G., Barlow, K.F., McLay, K.E., Kaul, R., Swarbreck, D., Dunham, A., Scott, C.E., Howe, K.L., Woodfine, K., Spencer, C.C., Jones, M.C., Gillson, C., Searle, S., Zhou, Y., Kokocinski, .F, McDonald, L., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. Nature 441: 315-321.
6. Schreiner, A., Ruonala, M., Jakob, V., Suthaus, J., Boles, E., Wouters, F. and Starzinski-Powitz, A. 2007. Junction protein shrew-1 influences cell invasion and interacts with invasion-promoting protein CD147. Mol. Biol. Cell 18: 1272-1281.
7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610972. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
8. Cogdell, D., Chung, W., Liu, Y., McDonald, J.M., Aldape, K., Issa, J.P., Fuller, G.N. and Zhang, W. 2011. Tumor-associated methylation of the putative tumor suppressor AJAP1 gene and association between decreased AJAP1 expression and shorter survival in patients with glioma. Chin. J. Cancer 30: 247-253.

CHROMOSOMAL LOCATION

Genetic locus: Ajap1 (mouse) mapping to 4 E2.

PRODUCT

AJAP1 siRNA (m) is a target-specific 19-25 nt siRNA 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 AJAP1 shRNA Plasmid (m): sc-140969-SH and AJAP1 shRNA (m) Lentiviral Particles: sc-140969-V as alternate gene silencing 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

AJAP1 siRNA (m) is recommended for the inhibition of AJAP1 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 AJAP1 gene expression knockdown using RT-PCR Primer: AJAP1 (m)-PR: sc-140969-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.