SANTA CRUZ BIOTECHNOLOGY, INC.

HRASLS siRNA (m): sc-146076

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The Power to Question

BACKGROUND

HRASLS (HRAS-like suppressor), also known as A-C1 or H-Rev107, is a 168 amino acid protein that belongs to the H-rev107 family and is expressed in skeletal muscle, testis, heart, brain and thyroid. In addition, HRASLS is highly expressed in osteosarcoma cells and has been detected at low concentrations in bone. Intracellularly, HRASLS is localized to the cytoplasm, as well as to the nuclear membrane and nucleus. HRASLS, a negative regulator of proto-oncogene Ras, is a member of the class II tumor suppressor superfamily and, when upregulated, inhibits cellular proliferation. Conversely, in non-small cell lung carcinomas (NSCLCs), the upregulation of cytoplasmic HRASLS may stimulate Ras activation and caveolin-1 expression, suggesting that the tumor suppression capabilities of HRASLS are specific to tumor cell line and intracellular localization.

REFERENCES

1. Hughes, P.J. and Stanway, G. 2000. The 2A proteins of three diverse picornaviruses are related to each other and to the H-rev107 family of proteins involved in the control of cell proliferation. J. Gen. Virol. 81: 201-207.
2. Ito, H., Akiyama, H., Shigeno, C. and Nakamura, T. 2001. Isolation, characterization, and chromosome mapping of a human A-C1 Ha-Ras suppressor gene (HRASLS). Cytogenet. Cell Genet. 93: 36-39.
3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606487. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Kaneda, A., Kaminishi, M., Yanagihara, K., Sugimura, T. and Ushijima, T. 2002. Identification of silencing of nine genes in human gastric cancers. Cancer Res. 62: 6645-6650.
5. Sers, C., Husmann, K., Nazarenko, I., Reich, S., Wiechen, K., Zhumabayeva, B., Adhikari, P., Schröder, K., Gontarewicz, A. and Schäfer, R. 2002. The class II tumour suppressor gene H-REV107-1 is a target of interferon-regulatory factor-1 and is involved in IFNγ-induced cell death in human ovarian carcinoma cells. Oncogene 21: 2829-2839.
6. Kaneda, A., Wakazono, K., Tsukamoto, T., Watanabe, N., Yagi, Y., Tatematsu, M., Kaminishi, M., Sugimura, T. and Ushijima, T. 2004. Lysyl oxidase is a tumor suppressor gene inactivated by methylation and loss of heterozygosity in human gastric cancers. Cancer Res. 64: 6410-6415.
7. Nazarenko, I., Kristiansen, G., Fonfara, S., Guenther, R., Gieseler, C., Kemmner, W., Schafer, R., Petersen, I. and Sers, C. 2006. H-REV107-1 stimulates growth in non-small cell lung carcinomas via the activation of mitogenic signaling. Am. J. Pathol. 169: 1427-1439.
8. Uyama, T., Morishita, J., Jin, X.H., Okamoto, Y., Tsuboi, K. and Ueda, N. 2009. The tumor suppressor gene H-Rev107 functions as a novel Ca^{2+}-independent cytosolic phospholipase A1/2 of the thiol hydrolase type. J. Lipid Res. 50: 685-693.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: Hrasls (mouse) mapping to 16 B2.

PRODUCT

HRASLS siRNA (m) 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 HRASLS shRNA Plasmid (m): sc-146076-SH and HRASLS shRNA (m) Lentiviral Particles: sc-146076-V as alternate gene silencing products.

For independent verification of HRASLS (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-146076A, sc-146076B and sc-146076C.

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

HRASLS siRNA (m) is recommended for the inhibition of HRASLS 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 HRASLS gene expression knockdown using RT-PCR Primer: HRASLS (m)-PR: sc-146076-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.