SANTA CRUZ BIOTECHNOLOGY, INC.

PLEKHA7 siRNA (h): sc-96577

BACKGROUND

PLEKHA7 (pleckstrin homology domain containing, family A member 7), also known as PH domain-containing family A member 7, is a 1,121 amino acid protein that contains one PH domain and two WW domains. Encoded by a gene that maps to human chromosome 11p15.1, PLEKHA7 exists as three alternatively spliced isoforms. Localizing to cell-cell junctions in Caco2 cells, PLEKHA7 interacts with the adherens junction protein p120 in human colon carcinoma cells. PLEKHA7 also colocalizes with zona adherens proteins and is necessary for zonula adherens biogenesis and maintenance. Associated with systolic blood pressure (SBP) and hypertension, PLEKHA7 is a potential target for the prevention or treatment of hypertension. PLEKHA7 is also linked to autoimmune hepatitis type 1, a chronic active hepatitis characterized by hypergammaglobulinemia and autoantibodies.

REFERENCES

1. Yokosawa, S., Yoshizawa, K., Ota, M., Katsuyama, Y., Kawa, S., Ichijo, T., Umemura, T., Tanaka, E. and Kiyosawa, K. 2007. A genomewide DNA microsatellite association study of Japanese patients with autoimmune hepatitis type 1. Hepatology 45: 384-390.
2. Meng, W., Mushika, Y., Ichii, T. and Takeichi, M. 2008. Anchorage of microtubule minus ends to adherens junctions regulates epithelial cell-cell contacts. Cell 135: 948-959.
3. Macqueen, D.J. and Johnston, I.A. 2008. An update on MyoD evolution in teleosts and a proposed consensus nomenclature to accommodate the tetraploidization of different vertebrate genomes. PLoS ONE 3: e1567.
4. Meng, W. and Takeichi, M. 2009. Adherens junction: molecular architecture and regulation. Cold Spring Harb Perspect Biol. 1: a002899.
5. Shyn, S.I., Shi, J., Kraft, J.B., Potash, J.B., Knowles, J.A., Weissman, M.M., Garriock, H.A., Yokoyama, J.S., McGrath, P.J., Peters, E.J., Scheftner, W.A., Coryell, W., Lawson, W.B., Jancic, D., Gejman, P.V., et al. 2009. Novel loci for major depression identified by genome-wide association study of Sequenced Treatment Alternatives to Relieve Depression and meta-analysis of three studies. Mol. Psychiatry 16: 202-215.
6. Levy, D., Ehret, G.B., Rice, K., Verwoert, G.C., Launer, L.J., Dehghan, A., Glazer, N.L., Morrison, A.C., Johnson, A.D., Aspelund, T., Aulchenko, Y., Lumley, T., Köttgen, A., Vasan, R.S., Rivadeneira, F., Eiriksdottir, G., et al. 2009. Genome-wide association study of blood pressure and hypertension. Nat. Genet. 41: 677-687.
7. Hong, K.W., Jin, H.S., Lim, J.E., Kim, S., Go, M.J. and Oh, B. 2010. Recapitulation of two genomewide association studies on blood pressure and essential hypertension in the Korean population. J. Hum. Genet. 55: 336-341.
8. Pulimeno, P., Bauer, C., Stutz, J. and Citi, S. 2010. PLEKHA7 is an adherens junction protein with a tissue distribution and subcellular localization distinct from ZO-1 and E-cadherin. PLoS ONE 5: e12207.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: PLEKHA7 (human) mapping to 11p15.1.

PRODUCT

PLEKHA7 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 PLEKHA7 shRNA Plasmid (h): sc-96577-SH and PLEKHA7 shRNA (h) Lentiviral Particles: sc-96577-V as alternate gene silencing products.

For independent verification of PLEKHA7 (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-96577A, sc-96577B and sc-96577C.

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

PLEKHA7 siRNA (h) is recommended for the inhibition of PLEKHA7 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PLEKHA7 gene expression knockdown using RT-PCR Primer: PLEKHA7 (h)-PR: sc-96577-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.