SANTA CRUZ BIOTECHNOLOGY, INC.

Ndfip2 siRNA (h): sc-75888

BACKGROUND

Ndfip2 (NEDD4 family interacting protein 2), also known as N4WBP5A, is a 336 amino acid protein that localizes to the membrane of both the endosome and the Golgi apparatus. Expressed in kidney, heart, brain, lung, liver, placenta and skeletal muscle, Ndfip2 interacts with NEDD4 and NEDD4-L and is thought to be involved in endocytosis and in the NFκB and MAPK signaling pathways. Additionally, Ndfip2 may function as an adaptor protein that may recruit NEDD4 ubiquitin-protein ligases to protein trafficking machinery in the Golgi. Ndfip2 is activated by T cells and may be ubiquitinated by NEDD4 or NEDD4-L, an event that does not affect Ndfip2 function. The gene encoding Ndfip2 maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome.

REFERENCES

1. Konstas, A.A., et al. 2002. Regulation of the epithelial sodium channel by N4WBP5A, a novel NEDD4/NEDD4-2-interacting protein. J. Biol. Chem. 277: 29406-29416.
2. Cristillo, A.D., et al. 2003. Cloning and characterization of N4WBP5A, an inducible, cyclosporine-sensitive, NEDD4-binding protein in human T lymphocytes. J. Biol. Chem. 278: 34587-34597.
3. Matsuda, A., et al. 2003. Large-scale identification and characterization of human genes that activate NFκB and MAPK signaling pathways. Oncogene 22: 3307-3318.
4. Palmada, M., et al. 2004. Regulation of intestinal phosphate cotransporter NaPi IIb by ubiquitin ligase NEDD4-2 and by serum- and glucocorticoid-dependent kinase 1. Am. J. Physiol. Gastrointest. Liver Physiol. 287: G143-G150.
5. Shearwin-Whyatt, L.M., et al. 2004. N4WBP5A (Ndfip2), a NEDD4-interacting protein, localizes to multivesicular bodies and the Golgi, and has a potential role in protein trafficking. J. Cell Sci. 117: 3679-3689.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610041. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Foot, N.J., et al. 2008. Regulation of the divalent metal ion transporter DMT1 and iron homeostasis by a ubiquitin-dependent mechanism involving Ndfips and WWP2. Blood 112: 4268-4275.

CHROMOSOMAL LOCATION

Genetic locus: NDFIP2 (human) mapping to 13q31.1.

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.

PRODUCT

Ndfip2 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 Ndfip2 shRNA Plasmid (h): sc-75888-SH and Ndfip2 shRNA (h) Lentiviral Particles: sc-75888-V as alternate gene silencing products.

For independent verification of Ndfip2 (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-75888A, sc-75888B and sc-75888C.

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

Ndfip2 siRNA (h) is recommended for the inhibition of Ndfip2 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 Ndfip2 gene expression knockdown using RT-PCR Primer: Ndfip2 (h)-PR: sc-75888-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.