

NUDT16L1 siRNA (m): sc-150107

BACKGROUND

NUDT16L1, also known as SDOS, is a 211 amino acid protein that exists as two alternatively spliced isoforms. Although strongly related to the nudix NUDT16 protein, NUDT16L1 lacks the nudix box and is therefore not related to the rest of the family. NUDT16L1 is thought to be an adaptor protein that may link syndecan-4 (SDC4) and paxilin (PXN) receptors. The gene that encodes NUDT16L1 consists of more than 2,000 bases and maps to human chromosome 16p13.3. Encoding over 900 genes and consisting of approximately 90 million base pairs, chromosome 16 makes up nearly 3% of the human genome and is associated with a variety of genetic disorders, such as giant axonal neuropathy, Rubinstein-Taybi syndrome and Crohn's disease. An association with systemic lupus erythematosus and a number of other autoimmune disorders with the pericentromeric region of chromosome 16 has led to the identification of SLC5A11 as a potential autoimmune modifier.

REFERENCES

1. Mentzer, W.C., Johnston, R.B., Baehner, R.L. and Nathan, D.G. 1977. An unusual form of chronic neutropenia in a father and daughter with hypogammaglobulinaemia. *Br. J. Haematol.* 36: 313-322.
2. Baraitser, M. and Preece, M.A. 1983. The Rubinstein-Taybi syndrome: occurrence in two sets of identical twins. *Clin. Genet.* 23: 318-320.
3. Breuning, M.H., Dauwerse, H.G., Fugazza, G., Saris, J.J., Spruit, L., Wijnen, H., Tommerup, N., van der Hagen, C.B., Imaizumi, K., Kuroki, Y., van den Boogaard, M.J., de Pater, J.M., Mariman, E.C., Hamel, B.C., et al. 1993. Rubinstein-Taybi syndrome caused by submicroscopic deletions within 16p13.3. *Am. J. Hum. Genet.* 52: 249-254.
4. Bomont, P., Cavalier, L., Blondeau, F., Ben Hamida, C., Belal, S., Tazir, M., Demir, E., Topaloglu, H., Korinthenberg, R., Tüysüz, B., Landrieu, P., Hentati, F. and Koenig, M. 2000. The gene encoding gigaxonin, a new member of the cytoskeletal BTB/kelch repeat family, is mutated in giant axonal neuropathy. *Nat. Genet.* 26: 370-374.
5. Denhez, F., Wilcox-Adelman, S.A., Baci, P.C., Saoncella, S., Lee, S., French, B., Neveu, W. and Goetinck, P.F. 2002. Syndesmos, a syndecan-4 cytoplasmic domain interactor, binds to the focal adhesion adaptor proteins paxillin and Hic-5. *J. Biol. Chem.* 277: 12270-12274.
6. Kuhlensäumer, G., Young, P., Oberwittler, C., Hünermund, G., Schirmacher, A., Domschke, K., Ringelstein, B. and Stögbauer, F. 2002. Giant axonal neuropathy (GAN): case report and two novel mutations in the gigaxonin gene. *Neurology* 58: 1273-1276.
7. Cho, J.H. 2004. Advances in the genetics of inflammatory bowel disease. *Curr. Gastroenterol. Rep.* 6: 467-473.
8. Mathew, C.G. and Lewis, C.M. 2004. Genetics of inflammatory bowel disease: progress and prospects. *Hum. Mol. Genet.* 13S: R161-R168.

CHROMOSOMAL LOCATION

Genetic locus: Nudt16l1 (mouse) mapping to 16 A1.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

NUDT16L1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NUDT16L1 shRNA Plasmid (m): sc-150107-SH and NUDT16L1 shRNA (m) Lentiviral Particles: sc-150107-V as alternate gene silencing products.

For independent verification of NUDT16L1 (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-150107A, sc-150107B and sc-150107C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NUDT16L1 siRNA (m) is recommended for the inhibition of NUDT16L1 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 μ M in 66 μ l. 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 NUDT16L1 gene expression knockdown using RT-PCR Primer: NUDT16L1 (m)-PR: sc-150107-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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