

Synaptotagmin XVII siRNA (h): sc-93177

BACKGROUND

Synaptotagmin XVII (SytXVII), also known as Synaptotagmin-17 (SYT17) or Protein B/K, is a 474 amino acid peripheral membrane protein that belongs to the Synaptotagmin family and contains two C2 domains. While expressed abundantly in brain (frontal and temporal lobes, hippocampus, hypothalamus, amygdala, substantia nigra and pituitary), kidney and prostate, Synaptotagmin XVII is also expressed in fetal brain, kidney and lung. The gene that encodes Synaptotagmin XVII contains 100,082 bases and maps to human chromosome 16p12.3. 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

- Baraitser, M. and Preece, M.A. 1983. The Rubinstein-Taybi syndrome: occurrence in two sets of identical twins. *Clin. Genet.* 23: 318-320.
- Perin, M.S., Johnston, P.A., Ozcelik, T., Jahn, R., Francke, U. and Südhof, T.C. 1991. Structural and functional conservation of synaptotagmin (p65) in *Drosophila* and humans. *J. Biol. Chem.* 266: 615-622.
- 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., et al. 1993. Rubinstein-Taybi syndrome caused by submicroscopic deletions within 16p13.3. *Am. J. Hum. Genet.* 52: 249-254.
- 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.
- Kuhlenbäumer, 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.
- Cho, J.H. 2004. Advances in the genetics of inflammatory bowel disease. *Curr. Gastroenterol. Rep.* 6: 467-473.
- Mathew, C.G. and Lewis, C.M. 2004. Genetics of inflammatory bowel disease: progress and prospects. *Hum. Mol. Genet.* 1: R161-R168.
- Chin, H., Choi, S.H., Jang, Y.S., Cho, S.M., Kim, H.S., Lee, J.H., Jeong, S.W., Kim, I.K., Kim, G.J. and Kwon, O.J. 2006. Protein kinase A-dependent phosphorylation of B/K protein. *Exp. Mol. Med.* 38: 144-152.

CHROMOSOMAL LOCATION

Genetic locus: SYT17 (human) mapping to 16p12.3.

RESEARCH USE

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

PRODUCT

Synaptotagmin XVII 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Synaptotagmin XVII shRNA Plasmid (h): sc-93177-SH and Synaptotagmin XVII shRNA (h) Lentiviral Particles: sc-93177-V as alternate gene silencing products.

For independent verification of Synaptotagmin XVII (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-93177A, sc-93177B and sc-93177C.

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

Synaptotagmin XVII siRNA (h) is recommended for the inhibition of Synaptotagmin XVII 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 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 Synaptotagmin XVII gene expression knockdown using RT-PCR Primer: Synaptotagmin XVII (h)-PR: sc-93177-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.