

SYNJ2BP siRNA (m): sc-153988

BACKGROUND

SYNJ2BP (Synaptojanin-2-binding protein), also known as mitochondrial outer membrane protein 25 (OMP25) or ARIP2, is a 145 amino acid mitochondrial outer membrane protein that contains one PDZ (DHR) domain. The PDZ domain on SYNJ2BP binds to isoform 2A of Synaptojanin 2. The gene that encodes SYNJ2BP contains 50,595 bases and maps to human chromosome 14q24.2. Housing over 700 genes, chromosome 14 comprises nearly 3.5% of the human genome. Chromosome 14 encodes the Presenilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease. The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α 1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

1. Nemoto, Y. and De Camilli, P. 1999. Recruitment of an alternatively spliced form of synaptojanin 2 to mitochondria by the interaction with the PDZ domain of a mitochondrial outer membrane protein. *EMBO J.* 18: 2991-3006.
2. Matsuzaki, T., Hanai, S., Kishi, H., Liu, Z., Bao, Y., Kikuchi, A., Tsuchida, K. and Sugino, H. 2002. Regulation of endocytosis of activin type II receptors by a novel PDZ protein through Ral/Ral-binding protein 1-dependent pathway. *J. Biol. Chem.* 277: 19008-19018.
3. Dabrowski, M., Aerts, S., Van Hummelen, P., Craessaerts, K., De Moor, B., Annaert, W., Moreau, Y. and De Strooper, B. 2003. Gene profiling of hippocampal neuronal culture. *J. Neurochem.* 85: 1279-1288.
4. Tsuchida, K., Nakatani, M., Matsuzaki, T., Yamakawa, N., Liu, Z., Bao, Y., Arai, K.Y., Murakami, T., Takehara, Y., Kurisaki, A. and Sugino, H. 2004. Novel factors in regulation of activin signaling. *Mol. Cell. Endocrinol.* 225: 1-8.
5. Zhang, H.J., Tai, G.X., Zhou, J., Ma, D. and Liu, Z.H. 2007. Regulation of activin receptor-interacting protein 2 expression in mouse hepatoma Hepa1-6 cells and its relationship with collagen type IV. *World J. Gastroenterol.* 13: 5501-5505.
6. Li, Z.D., Wu, Y., Bao, Y.L., Yu, C.L., Guan, L.L., Wang, Y.Z., Meng, X.Y. and Li, Y.X. 2009. Identification and characterization of human ARIP2 and its relation to breast cancer. *Cytokine* 46: 251-259.
7. Liu, H.Y., Chen, F.F., Ge, J.Y., Wang, Y.N., Zhang, C.H., Cui, X.L., Yu, F., Tai, G.X. and Liu, Z.H. 2009. Expression and localization of activin receptor-interacting protein 2 in mouse tissues. *Gen. Comp. Endocrinol.* 161: 276-282.
8. Lerner, A.J. and Doran, M. 2009. Genotype-phenotype relationships of presenilin-1 mutations in Alzheimer's disease: an update. *J. Alzheimers Dis.* 17: 259-265.
9. Topic, A., Alempijevic, T., Milutinovic, A.S. and Kovacevic, N. 2009. α 1-antitrypsin phenotypes in adult liver disease patients. *Ups. J. Med. Sci.* 114: 228-234.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Synj2bp (mouse) mapping to 12 D1.

PRODUCT

SYNJ2BP 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 SYNJ2BP shRNA Plasmid (m): sc-153988-SH and SYNJ2BP shRNA (m) Lentiviral Particles: sc-153988-V as alternate gene silencing products.

For independent verification of SYNJ2BP (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-153988A, sc-153988B and sc-153988C.

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

SYNJ2BP siRNA (m) is recommended for the inhibition of SYNJ2BP 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 SYNJ2BP gene expression knockdown using RT-PCR Primer: SYNJ2BP (m)-PR: sc-153988-PR (20 μ l). 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.