

SEZ6L2 siRNA (h): sc-93330

BACKGROUND

SEZ6L2 (seizure related 6 homolog (mouse)-like 2) is a 910 amino acid single-pass type I membrane protein that belongs to the SEZ6 family. The SEZ6L2 protein is O-glycosylated with core 1 or possibly core 8 glycans. Containing three CUB domains and five Sushi (CCP/SCR) domains, SEZ6L2 may contribute to specialized endoplasmic reticulum functions in neurons. Detected on cell surface of lung-cancer, SEZ6L2 demonstrates increased expression in the majority of primary lung cancers and lung-cell lines. Existing as four alternatively spliced isoforms, the SEZ6L2 gene is conserved in canine, bovine, mouse, rat and zebrafish, and maps to human chromosome 16p11.2. Recurrent *de novo* or inherited microdeletions and microduplications on chromosome 16p11.2 have been correlated to Autism spectrum disorders (ASD), endocardial fibroelastosis, infantile seizure disorder and schizophrenia.

REFERENCES

1. Ghebranious, N., Giampietro, P.F., Wesbrook, F.P. and Rezkalla, S.H. 2007. A novel microdeletion at 16p11.2 harbors candidate genes for aortic valve development, seizure disorder, and mild mental retardation. *Am. J. Med. Genet. A* 143A: 1462-1471.
2. Kumar, R.A., KaraMohamed, S., Sudi, J., Conrad, D.F., Brune, C., Badner, J.A., Gilliam, T.C., Nowak, N.J., Cook, E.H., Dobyns, W.B. and Christian, S.L. 2008. Recurrent 16p11.2 microdeletions in autism. *Hum. Mol. Genet.* 17: 628-638.
3. McCarthy, S.E., Makarov, V., Kirov, G., Addington, A.M., McClellan, J., Yoon, S., Perkins, D.O., Dickel, D.E., Kusenda, M., Krastoshevsky, O., Krause, V., Kumar, R.A., Grozeva, D., Malhotra, D., Walsh, T., et al. 2009. Microduplications of 16p11.2 are associated with schizophrenia. *Nat. Genet.* 41: 1223-1227.
4. Kumar, R.A., Marshall, C.R., Badner, J.A., Babatz, T.D., Mukamel, Z., Aldinger, K.A., Sudi, J., Brune, C.W., Goh, G., Karamohamed, S., Sutcliffe, J.S., Cook, E.H., Geschwind, D.H., Dobyns, W.B., Scherer, S.W., et al. 2009. Association and mutation analyses of 16p11.2 autism candidate genes. *PLoS ONE* 4: e4582.
5. Bedoyan, J.K., Kumar, R.A., Sudi, J., Silverstein, F., Ackley, T., Iyer, R.K., Christian, S.L. and Martin, D.M. 2010. Duplication 16p11.2 in a child with infantile seizure disorder. *Am. J. Med. Genet. A* 152A: 1567-1574.
6. Puvabanditsin, S., Nagar, M.S., Joshi, M., Lambert, G., Garrow, E. and Brandsma, E. 2010. Microdeletion of 16p11.2 associated with endocardial fibroelastosis. *Am. J. Med. Genet. A* 152A: 2383-2386.
7. Konyukh, M., Delorme, R., Chaste, P., Leblond, C., Lemi re, N., Nygren, G., Anckars ter, H., Rastam, M., Stahlberg, O., Amsellem, F., Gillberg, I.C., Mouren-Simeoni, M.C., Herbrecht, E., Fauchereau, F., Toro, R., et al. 2011. Variations of the candidate SEZ6L2 gene on Chromosome 16p11.2 in patients with autism spectrum disorders and in human populations. *PLoS ONE* 6: e17289.

ROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: SEZ6L2 (human) mapping to 16p11.2.

PRODUCT

SEZ6L2 siRNA (h) is a pool of 2 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 SEZ6L2 shRNA Plasmid (h): sc-93330-SH and SEZ6L2 shRNA (h) Lentiviral Particles: sc-93330-V as alternate gene silencing products.

For independent verification of SEZ6L2 (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-93330A and sc-93330B.

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

SEZ6L2 siRNA (h) is recommended for the inhibition of SEZ6L2 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 SEZ6L2 gene expression knockdown using RT-PCR Primer: SEZ6L2 (h)-PR: sc-93330-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.