SANTA CRUZ BIOTECHNOLOGY, INC.

LGICZ1 siRNA (h): sc-93908

BACKGROUND

LGICZ1 (ligand-gated ion channel zinc-activated 1), also known as ZACN (zinc-activated ligand-gated ion channel), L2, LGICZ or ZAC, is a 412 amino acid multi-pass membrane protein belonging to the ligand-gated ion channel family. LGICZ1 forms a cation-permeable ligand-gated ion channel of the "Cys-loop" superfamily and is glycosylated during post-translational modification. The endogenous ligand for LGICZ1 is Zn^{2+}, although LGICZ1 has also been found to activate spontaneously. LGICZ1 is detected in pancreas, brain, liver, placenta, trachea, kidney, spinal cord, stomach and fetal brain. In the adult brain region, LGICZ1 is detected in the hippocampus, striatum, amygdala and thalamus. Mouse and rat orthologous proteins of LGICZ1 do not exist. Three isoforms of LGICZ1 are produced by alternative splicing events.

REFERENCES

1. Reeves, D.C. and Lummis, S.C. 2002. The molecular basis of the structure and function of the 5-HT3 receptor: a model ligand-gated ion channel (review). Mol. Membr. Biol. 19: 11-26.
2. Davies, P.A., Wang, W., Hales, T.G. and Kirkness, E.F. 2003. A novel class of ligand-gated ion channel is activated by Zn^{2+}. J. Biol. Chem. 278: 712-717.
3. Connolly, C.N. and Wafford, K.A. 2004. The Cys-loop superfamily of ligand-gated ion channels: the impact of receptor structure on function. Biochem. Soc. Trans. 32: 529-534.
4. Houtani, T., Munemoto, Y., Kase, M., Sakuma, S., Tsutsumi, T. and Sugimoto, T. 2005. Cloning and expression of ligand-gated ion-channel receptor L2 in central nervous system. Biochem. Biophys. Res. Commun. 335: 277-285.
5. Frederickson, C.J., Koh, J.Y. and Bush, A.I. 2005. The neurobiology of zinc in health and disease. Nat. Rev. Neurosci. 6: 449-462.
6. Zody, M.C., Garber, M., Adams, D.J., Sharpe, T., Harrow, J., Lupski, J.R., Nicholson, C., Searle, S.M., Wilming, L., Young, S.K., Abouelleil, A., Allen, N.R., Bi, W., et al. 2006. DNA sequence of human chromosome 17 and analysis of rearrangement in the human lineage. Nature 440: 1045-1049.
7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610935. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/610935

CHROMOSOMAL LOCATION

Genetic locus: ZACN (human) mapping to 17q25.1.

PRODUCT

LGICZ1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LGICZ1 shRNA Plasmid (h): sc-93908-SH and LGICZ1 shRNA (h) Lentiviral Particles: sc-93908-V as alternate gene silencing products.

For independent verification of LGICZ1 (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-93908A and sc-93908B.

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

LGICZ1 siRNA (h) is recommended for the inhibition of LGICZ1 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 LGICZ1 gene expression knockdown using RT-PCR Primer: LGICZ1 (h)-PR: sc-93908-PR (20 µl). 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.

PROTOCOLS

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