SANTA CRUZ BIOTECHNOLOGY, INC.

MALL siRNA (h): sc-94392

BACKGROUND

MAL (myelin and lymphocyte protein), also known as T lymphocyte maturation-associated protein, is a nonglycosylated hydrophobic integral membrane protein belonging to the Myelin and lymphocyte (MAL) family of proteolipids. MAL is highly enriched in nervous system myelin and in rafts and apical membranes of epithelial cells. It is involved in forming, stabilizing and maintaining glycosphingolipid-enriched membrane microdomains. MALL (mal, T-cell differentiation protein-like), also known as BENE, is a 153 amino acid multipass membrane protein that belongs to the MAL family and contains one MARVEL domain. The gene encoding MALL maps to human chromosome 2, which consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2 including Harlequin icthyosis, sitosterolemia and Alström syndrome.

REFERENCES

1. Schaeren-Wiemers, N., et al. 1995. Identification of new oligodendrocyte- and myelin-specific genes by a differential screening approach. J. Neurochem. 65: 10-22.
2. Zumsteg, U., et al. 2000. Alstrom syndrome: confirmation of linkage to chromosome 2p12-13 and phenotypic heterogeneity in three affected sibs. J. Med. Genet. 37: E8.
3. Shulenin, S., et al. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (white) gene subfamily maps to human chromosome 2p21 in the region of the sitosterolemia locus. Cytogenet. Cell Genet. 92: 204-208.
4. Schaeren-Wiemers, N., et al. 2004. The raft-associated protein MAL is required for maintenance of proper axon—glia interactions in the central nervous system. J. Cell Biol. 166: 731-742.
5. Saravanan, K., et al. 2004. Specific downregulation and mistargeting of the lipid raft-associated protein MAL in a glycolipid storage disorder. Neurobiol. Dis. 16: 396-406.
6. Marazuela, M., et al. 2004. Expression of MAL and MAL2, two elements of the protein machinery for raft-mediated transport, in normal and neoplastic human tissue. Histol. Histopathol. 19: 925-933.
7. Philippar, U., et al. 2004. The SRF target gene Fhl2 antagonizes RhoA/MAL-dependent activation of SRF. Mol. Cell 16: 867-880.
8. Kelsell, D.P., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. Am. J. Hum. Genet. 76: 794-803.

CHROMOSOMAL LOCATION

Genetic locus: MALL (human) mapping to 2q13.

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.

PRODUCT

MALL 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MALL shRNA Plasmid (h): sc-94392-SH and MALL shRNA (h) Lentiviral Particles: sc-94392-V as alternate gene silencing products.

For independent verification of MALL (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-94392A, sc-94392B and sc-94392C.

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

MALL siRNA (h) is recommended for the inhibition of MALL 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 MALL gene expression knockdown using RT-PCR Primer: MALL (h)-PR: sc-94392-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.