SANTA CRUZ BIOTECHNOLOGY, INC.

ORMDL2 siRNA (h): sc-96102

BACKGROUND

The ORMDL (ORM1-like) family of proteins consist of ORMDL1, ORMDL2 and ORMDL3; all of which are human homologs of the *S. cerevisiae* ORM1 protein. Localized to the membrane of the endoplasmic reticulum, ORMDLs are multi-pass membrane proteins that are implicated in γ-secretase (BACE) function, as well as expression of presenilin (PSI), a protein involved in Alzheimer's disease (AD). ORMDL1 (ORM1-like protein 1), also known as Adoplin-1, is a widely expressed 153 amino acid member of the ORMDL family. Expression of ORMDL1 is down-regulated in PSI mutations, suggesting a possible role as a therapeutic target for AD. ORMDL2 (ORM1-like protein 2), also known as Adoplin-2, and ORMDL3 (ORM1-like protein 3) are expressed in tissues such as heart, brain, lung, liver and kidney. ORMDL3 exists as two isoforms due to alternative splicing events and may be a determinant of susceptibility to childhood asthma.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: ORMDL2 (human) mapping to 12q13.2.

PRODUCT

ORMDL2 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 ORMDL2 shRNA Plasmid (h): sc-96102-SH and ORMDL2 shRNA (h) Lentiviral Particles: sc-96102-V as alternate gene silencing products.

For independent verification of ORMDL2 (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-96102A, sc-96102B and sc-96102C.

RESEARCH USE

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

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.

PROTOCOLS

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

APPLICATIONS

ORMDL2 siRNA (h) is recommended for the inhibition of ORMDL2 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 ORMDL2 gene expression knockdown using RT-PCR Primer: ORMDL2 (h)-PR: sc-96102-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.