SANTA CRUZ BIOTECHNOLOGY, INC.

IMMP2L siRNA (h): sc-89651

BACKGROUND

Composed of two catalytic subunits, designated IMP1 and IMP2, the mitochondrial inner membrane peptidase (IMP) complex functions in the production of active, mature mitochrondrial inner membrane proteins by removing the mitochondrial targeting presequence of nuclear encoded proteins. IMMP2L (mitochondrial inner membrane protease subunit 2), also known as IMP2, is a 175 amino acid protein that belongs to the peptidase S26 family and IMP1 subfamily. Expressed in most tissues except adult liver and lung, IMMP1L participates in the assembly of the active form of Diablo, a mitochrondrial protein that promotes apoptosis. The gene encoding IMMP2L maps to human chromosome 7q31.1 and mouse chromosome 12 B1; defects to this gene may result in Gilles de la Tourette syndrome (GTS), a neurological disorder characterized by motor and vocal tics, as well as behavioral abnormalities.

REFERENCES

1. Boghosian-Sell, L., et al. 1996. Tourette syndrome in a pedigree with a 7;18 translocation: identification of a YAC spanning the translocation breakpoint at 18q22.3. Am. J. Hum. Genet. 59: 999-1005.
2. Petek, E., et al. 2001. Disruption of a novel gene (IMMP2L) by a breakpoint in 7q31 associated with Tourette syndrome. Am. J. Hum. Genet. 68: 848-858.
3. Burri, L., et al. 2005. Mature DIABLO/Smac is produced by the IMP protease complex on the mitochondrial inner membrane. Mol. Biol. Cell 16: 2926-2933.
4. Choufani, S., et al. 2007. Molecular and genomic studies of IMMP2L and mutation screening in autism and Tourette syndrome. Mol. Genet. Genomics 277: 71-81.
5. Saus, E., et al. 2010. Comprehensive copy number variant (CNV) analysis of neuronal pathways genes in psychiatric disorders identifies rare variants within patients. J. Psychiatr. Res. 44: 971-978.
6. Elia, J., et al. 2010. Rare structural variants found in attention-deficit hyperactivity disorder are preferentially associated with neurodevelopmental genes. Mol. Psychiatry 15: 637-646.

CHROMOSOMAL LOCATION

Genetic locus: IMMP2L (human) mapping to 7q31.1.

PRODUCT

IMMP2L 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 IMMP2L shRNA Plasmid (h): sc-89651-SH and IMMP2L shRNA (h) Lentiviral Particles: sc-89651-V as alternate gene silencing products.

For independent verification of IMMP2L (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-89651A, sc-89651B and sc-89651C.

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

IMMP2L siRNA (h) is recommended for the inhibition of IMMP2L 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 IMMP2L gene expression knockdown using RT-PCR Primer: IMMP2L (h)-PR: sc-89651-PR (20 µl, 591 bp). 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.