SANTA CRUZ BIOTECHNOLOGY, INC.

IMMP1L siRNA (h): sc-96882

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 memrane proteins by removing the mitochondrial targeting presequence of nuclear encoded proteins. IMMP1L (mitochondrial inner membrane protease subunit 1), also known as IMP1, is a 166 amino acid protein that belongs to the peptidase S26 family and IMP1 subfamily. Localizing to the mitochondrial inner membrane, IMMP1L participates in the assembly of the active form of Diablo, a mitochrondrial protein that promotes apoptosis. The gene encoding IMMP1L maps to human chromosome 11p13 and mouse chromosome 2 E3. Chromosome 11 houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

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4. Bhuiyan, Z.A., et al. 2008. An intronic mutation leading to incomplete skipping of exon-2 in KCNQ1 rescues hearing in Jervell and Lange-Nielsen syndrome. Prog. Biophys. Mol. Biol. 98: 319-327.
5. Mai, Y. and Gao, G. 2010. Expression of IMP1 enhances production of murine leukemia virus vector by facilitating viral genomic RNA packaging. PLoS ONE 5: e15881.
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7. Pluta, P., et al. 2011. Correlation of Smac/DIABLO protein expression with the clinico-pathological features of breast cancer patients. Neoplasma 58: 430-435.
8. Fullston, T., et al. 2011. Mitochondrial inhibition during preimplantation embryogenesis shifts the transcriptional profile of fetal mouse brain. Reprod. Fertil. Dev. 23: 691-701.

CHROMOSOMAL LOCATION

Genetic locus: IMMP1L (human) mapping to 11p13.

PROTOCOLS

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

PRODUCT

IMMP1L 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 IMMP1L shRNA Plasmid (h): sc-96882-SH and IMMP1L shRNA (h) Lentiviral Particles: sc-96882-V as alternate gene silencing products.

For independent verification of IMMP1L (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-96882A, sc-96882B and sc-96882C.

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

IMMP1L siRNA (h) is recommended for the inhibition of IMMP1L 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 IMMP1L gene expression knockdown using RT-PCR Primer: IMMP1L (h)-PR: sc-96882-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.