SANTA CRUZ BIOTECHNOLOGY, INC.

Caprin1 siRNA (m): sc-72786

BACKGROUND

Caprin1, also known as GPIAP1, GPIP137 or M11S1, is a 709 amino acid protein that localizes to the cytoplasm, as well as to the cytosol and the cell projection and belongs to the caprin family. Expressed ubiquitously as multiple alternatively spliced isoforms, Caprin1 is thought to regulate the transport and subsequent translation of mRNAs that encode proteins which are involved in synaptic plasticity and cellular proliferation. Caprin1 interacts directly with several proteins, including G3BP1, CaMKIIα and BDNF and may function in homomultimeric structures. The gene encoding Caprin1 maps to human chromosome 11p13, which 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

1. Ellis, J.A., et al. 1995. Identification and characterization of a novel protein (p137) which transcytoses bidirectionally in Caco-2 cells. J. Biol. Chem. 270: 20717-20723.
2. Gessler, M., et al. 1996. The gene encoding the GPI-anchored membrane protein p137GPI (M11S1) maps to human chromosome 11p13 and is highly conserved in the mouse. Genomics 32: 169-170.
3. de Vries, H., et al. 2000. Human pre-mRNA cleavage factor II(m) contains homologs of yeast proteins and bridges two other cleavage factors. EMBO J. 19: 5895-5904.
4. Grill, B., et al. 2004. Activation/division of lymphocytes results in increased levels of cytoplasmic activation/proliferation-associated protein-1: prototype of a new family of proteins. J. Immunol. 172: 2389-2400.
5. Wang, B., et al. 2005. Absence of caprin-1 results in defects in cellular proliferation. J. Immunol. 175: 4274-4282.

CHROMOSOMAL LOCATION

Genetic locus: Caprin1 (mouse) mapping to 2 E2.

PRODUCT

Caprin1 siRNA (m) 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 be-low. Suitable for 50-100 transfections. Also see Caprin1 shRNA Plasmid (m): sc-72786-SH and Caprin1 shRNA (m) Lentiviral Particles: sc-72786-V as alternate gene silencing products.

For independent verification of Caprin1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72786A, sc-72786B and sc-72786C.

PROTOCOLS

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

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

Caprin1 siRNA (m) is recommended for the inhibition of Caprin1 expression in mouse 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.

GENE EXPRESSION MONITORING

Caprin1 (F-3): sc-518251 is recommended as a control antibody for monitoring of Caprin1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Caprin1 gene expression knockdown using RT-PCR Primer: Caprin1 (m)-PR: sc-72786-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.