SANTA CRUZ BIOTECHNOLOGY, INC.

SNX17 siRNA (m): sc-61588

BACKGROUND

Sorting nexin (SNX) proteins are members of a large family of hydrophilic proteins that interact with a variety of receptor types, are involved in intracellular trafficking and contain a characteristic phox homology (PX) domain. SNX17, which demonstrates ubiquitous expression, contains a PX domain that shares 28% sequence identity with the PX domain of SNX1, as well as a B41 (FERM) domain. The SNX17 gene maps to chromosome 2 and is part of the cellular sorting machinery that regulates cell surface levels of LRP (lipoprotein receptor-related protein) by promoting its recycling. While the PX domain of SNX17 interacts with phosphatidylinositol-3-phosphate for membrane association, the FERM domain and the carboxyl-terminal region aid in LRP binding. Research indicates that SNX17 is localized to the limiting membrane and recycling tubules of early endosomes.

REFERENCES

1. Nomura, N., et al. 1994. Prediction of the coding sequences of unidentified human genes. II. The coding sequences of 40 new genes (KIAA0041-KIAA0080) deduced by analysis of cDNA clones from human cell line KG-1. DNA Res. 1: 223-229.
2. Florian, V., et al. 2001. A new member of the sorting nexin family interacts with the C-terminus of P-Selectin. Biochem. Biophys. Res. Commun. 281: 1045-1050.
3. Stockinger, W., et al. 2002. The PX domain protein SNX17 interacts with members of the LDL receptor family and modulates endocytosis of the LDL receptor. EMBO J. 21: 4259-4267.
4. Burden, J.J., et al. 2004. Sorting motifs in the intracellular domain of the low density lipoprotein receptor interact with a novel domain of sorting nexin 17. J. Biol. Chem. 279: 16237-16245.
5. Williams, R., et al. 2004. Sorting nexin 17 accelerates internalization yet retards degradation of P-Selectin. Mol. Biol. Cell 15: 3095-3105.
6. Knauth, P., et al. 2005. Functions of sorting nexin 17 domains and recognition motif for P-Selectin trafficking. J. Mol. Biol. 347: 813-825.
7. van Kerkhof, P., et al. 2005. Sorting nexin 17 facilitates LRP recycling in the early endosome. EMBO J. 24: 2851-2861.

CHROMOSOMAL LOCATION

Genetic locus: Snx17 (mouse) mapping to 5 B1.

PRODUCT

SNX17 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 below. Suitable for 50-100 transfections. Also see SNX17 shRNA Plasmid (m): sc-61588-SH and SNX17 shRNA (m) Lentiviral Particles: sc-61588-V as alternate gene silencing products.

For independent verification of SNX17 (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-61588A, sc-61588B and sc-61588C.

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

SNX17 siRNA (m) is recommended for the inhibition of SNX17 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

SNX17 (H-10): sc-166957 is recommended as a control antibody for monitoring of SNX17 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) 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 SNX17 gene expression knockdown using RT-PCR Primer: SNX17 (m)-PR: sc-61588-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.

PROTOCOLS

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