SANTA CRUZ BIOTECHNOLOGY, INC.

Unc18-1 siRNA (h): sc-42308

BACKGROUND

Unc18-1, 2 and 3 (syntaxin binding proteins 1-3, STXBP1-3, UNC18-a-c, MUNC18-1–3) are chaperone molecules that block syntaxin interactions with cognate SNARE (soluble NSF attachment protein (SNAP) receptors) proteins and regulate exocytosis. Unc18-1–3 mRNA is present in RBL-2H3 mast cells, mouse bone marrow derived mast cells (BMMC), and platelets. Unc18-1 Ser 313 is a protein kinase C phosphorylation site and Thr 574 is a cyclin-dependent kinase 5 phosphorylation site that regulates Unc18-1/Syntaxin1A interactions. Unc18-1 is phosphorylated on Ser 313 in response to phorbol ester treatment in adrenal chromaffin cells. Unc18-2 co-localizes with Syntaxin 3 at the apical plasma membrane of intestinal, proximal tubule and collecting duct epithelial cells.

REFERENCES

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3. Gaisano, H.Y., et al. 2004. Alcoholic chronic pancreatitis involves displacement of Munc18c from the pancreatic acinar basal membrane surface. Pancreas 28: 395-400.
4. Gladycheva, S.E., et al. 2004. Regulation of syntaxin1A-munc18 complex for SNARE pairing in HEK293 cells. J. Physiol. 558: 857-871.
5. Graham, M.E., et al. 2004. Syntaxin/Munc18 interactions in the late events during vesicle fusion and release in exocytosis. J. Biol. Chem. 279: 32751-32760.
6. Liu, J., et al. 2004. Fluorescence resonance energy transfer reports properties of syntaxin1a interaction with Munc18-1 *in vivo*. J. Biol. Chem. 279: 55924-55936.
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8. Nigam, R., et al. 2005. Expression and transcriptional regulation of Munc18 isoforms in mast cells. Biochim. Biophys. Acta 1728: 77-83.
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CHROMOSOMAL LOCATION

Genetic locus: STXBP1 (human) mapping to 9q34.11.

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.

PRODUCT

Unc18-1 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 Unc18-1 shRNA Plasmid (h): sc-42308-SH and Unc18-1 shRNA (h) Lentiviral Particles: sc-42308-V as alternate gene silencing products.

For independent verification of Unc18-1 (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-42308A, sc-42308B and sc-42308C.

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

Unc18-1 siRNA (h) is recommended for the inhibition of Unc18-1 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.

GENE EXPRESSION MONITORING

Unc18-1 (31): sc-136304 is recommended as a control antibody for monitoring of Unc18-1 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Unc18-1 gene expression knockdown using RT-PCR Primer: Unc18-1 (h)-PR: sc-42308-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.