SANTA CRUZ BIOTECHNOLOGY, INC.

GRASP siRNA (m): sc-62424

BACKGROUND

GRASP (GRP1-associated scaffold protein, tamalin) is a 395 amino acid protein encoded by the human gene GRASP. GRASP is a scaffold protein that comprises multiple protein-interacting domains, including a postsynaptic density protein (PSD-95)/discs-large/ZO-1 (PDZ) domain, a leucine-zipper region, and a carboxyl-terminal PDZ binding motif. GRASP is involved with intracellular trafficking and contributes to the macromolecular organization of group 1 metabotropic glutamate receptors (mGluRs) at synapses. GRASP form a heteromer composed of GRASP, PSCD2 and at least one mGluR1. It also interacts with PSCD3, mGluR2, mGluR3 and mGluR5. GRASP is highly expressed in brain and has lower levels of expression in lung, heart, embryo, kidney, and ovary.

REFERENCES

1. Langille, S.E., et al. 1999. ADP-ribosylation factor 6 as a target of guanine nucleotide exchange factor GRP1. J. Biol. Chem. 274: 27099-27104.
2. Dominguez, O., et al. 1999. Cloning of ARE-containing genes by AU-motif-directed display. Genomics 54: 278-286.
3. Nevrivy, D.J., et al. 2000. Interaction of GRASP, a protein encoded by a novel retinoic acid-induced gene, with members of the cytohesin family of guanine nucleotide exchange factors. J. Biol. Chem. 275: 16827-16836.
4. Ye, D., et al. 2001. Investigation of the catalytic site within the ATP-grasp domain of Clostridium symbiosum pyruvate phosphate dikinase. J. Biol. Chem. 276: 37630-37639.
5. Kitano, J., et al. 2002. Tamalin, a PDZ domain-containing protein, links a protein complex formation of group 1 metabotropic glutamate receptors and the guanine nucleotide exchange factor cytohesins. J. Neurosci. 22: 1280-1289.
6. Hall, B.S., et al. 2006. TbVps34, the trypanosome orthologue of Vps34, is required for Golgi complex segregation. J. Biol. Chem. 281: 27600-27612.
7. Sugi, T., et al. 2007. Crystal structures of autoinhibitory PDZ domain of Tamalin: implications for metabotropic glutamate receptor trafficking regulation. EMBO J. 26: 2192-2205.

CHROMOSOMAL LOCATION

Genetic locus: Grasp (mouse) mapping to 15 F2.

PRODUCT

GRASP 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 GRASP shRNA Plasmid (m): sc-62424-SH and GRASP shRNA (m) Lentiviral Particles: sc-62424-V as alternate gene silencing products.

For independent verification of GRASP (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-62424A, sc-62424B and sc-62424C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

GRASP siRNA (m) is recommended for the inhibition of GRASP 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GRASP gene expression knockdown using RT-PCR Primer: GRASP (m)-PR: sc-62424-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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