SANTA CRUZ BIOTECHNOLOGY, INC.

RIM-BP2 siRNA (h): sc-96212

BACKGROUND

RIMS-binding proteins (RIM-BPs) serve as adaptors during vesicle fusion and release by forming links between synaptic-vesicle fusion apparatuses and calcium channels. Specifically, RIM-BP2 (RIMS binding protein 2), also known as RBP2, is a 1,052 amino acid protein that links L-type Ca^{++} CP α1D, N-type Ca^{++} CP α1B, Rim1 and Rim2 during synaptic transmission. RIM-BP2 contains three Fibronectin type-III domains and three SH3 domains, which are used to mediate binding to a proline-rich motifs. Existing as three alternatively spliced isoforms, RIM-BP2 is encoded by a gene that maps to human chromosome 12q24.33 and mouse chromosome 5 G1.3.

REFERENCES

1. Nagase, T., Ishikawa, K., Nakajima, D., Ohira, M., Seki, N., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1997. Prediction of the coding sequences of unidentified human genes. VII. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 4: 141-150.
2. Wang, Y., Sugita, S. and Sudhof, T.C. 2000. The RIM/NIM family of neuronal C2 domain proteins. Interactions with Rab3 and a new class of Src homology 3 domain proteins. J. Biol. Chem. 275: 20033-20044.
3. Kaeser, P.S. and Südhof, T.C. 2005. RIM function in short- and long-term synaptic plasticity. Biochem. Soc. Trans. 33: 1345-1349.
4. Mittelstaedt, T. and Schoch, S. 2007. Structure and evolution of RIM-BP genes: identification of a novel family member. Gene 403: 70-79.
5. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 611602. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Mittelstaedt, T., Alvarez-Baron, E. and Schoch, S. 2010. RIM proteins and their role in synapse function. Biol. Chem. 391: 599-606.

CHROMOSOMAL LOCATION

Genetic locus: RIMBP2 (human) mapping to 12q24.33.

PRODUCT

RIM-BP2 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 RIM-BP2 shRNA Plasmid (h): sc-96212-SH and RIM-BP2 shRNA (h) Lentiviral Particles: sc-96212-V as alternate gene silencing products.

For independent verification of RIM-BP2 (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-96212A, sc-96212B and sc-96212C.

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

RIM-BP2 siRNA (h) is recommended for the inhibition of RIM-BP2 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 RIM-BP2 gene expression knockdown using RT-PCR Primer: RIM-BP2 (h)-PR: sc-96212-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.