SANTA CRUZ BIOTECHNOLOGY, INC.

BEGAIN siRNA (m): sc-141685

BACKGROUND

BEGAIN (brain-enriched guanylate kinase-associated protein) is a 593 amino acid protein that localizes to cytoplasm and membrane. BEGAIN interacts with PSD-95 and SAPAP1 and forms a ternary complex and may sustain the structure of the postsynaptic density (PSD). BEGAIN is a novel PSD component associated with the core complex of PSD-95 and SAPAP. Because BEGAIN and SAPAP interact with the same region of PSD-95, BEGAIN and SAPAP may compete for the binding to PSD-95 and cannot interact with PSD-95 simultaneously. The C-terminal region of BEGAIN is involved in the interaction with PSD-95 whereas the N-terminal region has a coiled-coil structure that may interact with other molecules. BEGAIN is specifically expressed in brain and enriched in the PSD fraction. BEGAIN is also expressed in neurons and enriched at synaptic junctions, and is likely involved in the organization of synaptic junction components.

REFERENCES

1. Deguchi, M., et al. 1998. BEGAIN (brain-enriched guanylate kinase-associated protein), a novel neuronal PSD-95/SAP90-binding protein. J. Biol. Chem. 273: 26269-26272.
2. Boeckers, T.M., et al. 1999. Proline-rich synapse-associated proteins ProSAP1 and ProSAP2 interact with synaptic proteins of the SAPAP/GKAP family. Biochem. Biophys. Res. Commun. 264: 247-252.
3. Nix, S.L., et al. 2000. hCASK and hDlg associate in epithelia, and their src homology 3 and guanylate kinase domains participate in both intramolecular and intermolecular interactions. J. Biol. Chem. 275: 41192-41200.
4. Kawabe, H., et al. 2001. Pilt, a novel peripheral membrane protein at tight junctions in epithelial cells. J. Biol. Chem. 276: 48350-48355.
5. Yao, I., et al. 2002. Synaptic and nuclear localization of brain-enriched guanylate kinase-associated protein. J. Neurosci. 22: 5354-5364.
6. Yao, I., et al. 2003. Synaptic localization of SAPAP1, a synaptic membrane-associated protein. Genes Cells 8: 121-129.
7. Beausoleil, S.A., et al. 2006. A probability-based approach for high-throughput protein phosphorylation analysis and site localization. Nat. Biotechnol. 24: 1285-1292.

CHROMOSOMAL LOCATION

Genetic locus: Begain (mouse) mapping to 12 F1.

PRODUCT

BEGAIN 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 BEGAIN shRNA Plasmid (m): sc-141685-SH and BEGAIN shRNA (m) Lentiviral Particles: sc-141685-V as alternate gene silencing products.

For independent verification of BEGAIN (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-141685A, sc-141685B and sc-141685C.

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

BEGAIN siRNA (m) is recommended for the inhibition of BEGAIN 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 BEGAIN gene expression knockdown using RT-PCR Primer: BEGAIN (m)-PR: sc-141685-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.