SANTA CRUZ BIOTECHNOLOGY, INC.

BIN3 siRNA (m): sc-141705

BACKGROUND

BAR adaptor proteins primarily function to integrate signal transduction pathways that regulate nuclear processes, as well as the F-Actin cytoskeleton and overall membrane dynamics. BIN3 (Bridging integrator 3) is a 253 amino acid cytoplasmic protein that contains a BAR domain and is found to be expressed in all tissues except for brain. The BAR domain functions to influence transcriptional repression, to sense or induce membrane curvature at endocytic sites and to bind to small GTPases. The gene encoding BIN3 is localized to a cancer suppressing region that is frequently found to be deleted in non-Hodgkin's lymphomas and several epithelial tumors. The yeast homolog of BIN3 has found to be involved in vesicle trafficking, cell polarity, cytokinesis and F-Actin organization. There are 2 isoforms of BIN3 that exist as a result of alternative slicing events.

REFERENCES

1. Elliott, K., et al. 1999. Bin1 functionally interacts with Myc and inhibits cell proliferation via multiple mechanisms. Oncogene 18: 3564-3573.
2. Ge, K., et al. 2000. Bin2, a functionally nonredundant member of the BAR adaptor gene family. Genomics 67: 210-220.
3. Routhier, E.L., et al. 2001. Human BIN3 complements the F-actin localization defects caused by loss of Hob3p, the fission yeast homolog of Rvs161p. J. Biol. Chem. 276: 21670-21677.
4. Habermann, B. 2004. The BAR-domain family of proteins: a case of bending and binding? EMBO Rep. 5: 250-255.
5. Peter, B.J., et al. 2004. BAR domains as sensors of membrane curvature: the amphiphysin BAR structure. Science 303: 495-499.
6. Ren, G., et al. 2006. The BAR domain proteins: molding membranes in fission, fusion, and phagy. Microbiol. Mol. Biol. Rev. 70: 37-120.

CHROMOSOMAL LOCATION

Genetic locus: Bin3 (mouse) mapping to 14 D2.

PRODUCT

BIN3 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 BIN3 shRNA Plasmid (m): sc-141705-SH and BIN3 shRNA (m) Lentiviral Particles: sc-141705-V as alternate gene silencing products.

For independent verification of BIN3 (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-141705A, sc-141705B and sc-141705C.

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

BIN3 siRNA (m) is recommended for the inhibition of BIN3 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

BIN3 (C-10): sc-514396 is recommended as a control antibody for monitoring of BIN3 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 BIN3 gene expression knockdown using RT-PCR Primer: BIN3 (m)-PR: sc-141705-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.