SANTA CRUZ BIOTECHNOLOGY, INC.

BRAP siRNA (m): sc-141737

BACKGROUND

BRAP (BRCA1 associated protein), also known as RNF52 (RING finger protein 52), BRAP2 or IMP, is a 592 amino acid protein that localizes to the cytoplasm and contains one UBP-type zinc finger and one RING-type zinc finger. Expressed in breast epithelial cells, BRAP functions to negatively regulate MAP kinase activity, specifically by inactivating the Ksr-1 scaffold protein, thereby limiting the formation of Raf/MEK complexes. Additionally, BRAP may play a role in the regulation of nuclear transport and may also act as a Ras-responsive E3 ubiquitin ligase that is subject to auto-ubiquitination. The gene encoding BRAP maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

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2. Li, S., et al. 1998. Identification of a novel cytoplasmic protein that specifically binds to nuclear localization signal motifs. J. Biol. Chem. 273: 6183-6189.
3. Asada, M., et al. 2004. BRAP2 functions as a cytoplasmic retention protein for p21 during monocyte differentiation. Mol. Cell. Biol. 24: 8236-8243.
4. Matheny, S.A., et al. 2004. Ras regulates assembly of mitogenic signalling complexes through the effector protein IMP. Nature 427: 256-260.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 604986. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Chen, C., et al. 2008. IMP modulates KSR1-dependent multivalent complex formation to specify ERK1/2 pathway activation and response thresholds. J. Biol. Chem. 283: 12789-12796.
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CHROMOSOMAL LOCATION

Genetic locus: Brap (mouse) mapping to 5 F.

PRODUCT

BRAP 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 BRAP shRNA Plasmid (m): sc-141737-SH and BRAP shRNA (m) Lentiviral Particles: sc-141737-V as alternate gene silencing products.

For independent verification of BRAP (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-141737A, sc-141737B and sc-141737C.

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

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

BRAP (D-5): sc-166012 is recommended as a control antibody for monitoring of BRAP 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 BRAP gene expression knockdown using RT-PCR Primer: BRAP (m)-PR: sc-141737-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.