SANTA CRUZ BIOTECHNOLOGY, INC.

BRDG1 siRNA (h): sc-40370

BACKGROUND

BCR downstream signaling-1 (BRDG1) enhances the activity of Tec and potentiates cellular responses downstream of B cell antigen receptor (BCR), cytokine receptor, integrin and receptor tyrosine kinase activation. BRDG1 is a docking protein that contains a proline rich PH domain and multiple candidate tyrosine phosphorylation sites that can associate with SH2 domain-containing effector proteins. BRDG1 is preferentially phosphorylated by the Tec family nonreceptor protein tyrosine kinases Tec and Pyk2, which contain SH2, SH3 and pleckstrin homology (PH) domains. The mouse ortholog, stem cell adaptor protein 1 (STAP-1), shares 83% identity with BRDG1. The human BRDG1 protein maps to chromosome 4q13.2 and encodes a 295 amino acid protein. BRDG1 transcripts are abundant in the Ramos human B cell line.

REFERENCES

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2. Ohya, K., Kajigaya, S., Kitanaka, A., Yoshida, K., Miyazato, A., Yamashita, Y., Yamanaka, T., Ikeda, U., Shimada, K., Ozawa, K. and Mano, H. 1999. Molecular cloning of a docking protein, BRDG1, that acts downstream of the Tec tyrosine kinase. Proc. Natl. Acad. Sci. USA 96: 11976-11981.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604298. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Masuhara, M., Nagao, K., Nishikawa, M., Sasaki, M., Yoshimura, A. and Osawa, M. 2000. Molecular cloning of murine STAP-1, the stem-cell-specific adaptor protein containing PH and SH2 domains. Biochem. Biophys. Res. Commun. 268: 697-703.
5. Yokohari, K., Yamashita, Y., Okada, S., Ohya, K., Oda, S., Hatano, M., Mano, H., Hirasawa, H. and Tokuhisa, T. 2001. Isoform-dependent interaction of BRDG1 with Tec kinase. Biochem. Biophys. Res. Commun. 289: 414-420.
6. LocusLink Report (LocusID: 26228). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: STAP1 (human) mapping to 4q13.2.

PRODUCT

BRDG1 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 BRDG1 shRNA Plasmid (h): sc-40370-SH and BRDG1 shRNA (h) Lentiviral Particles: sc-40370-V as alternate gene silencing products.

For independent verification of BRDG1 (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-40370A, sc-40370B and sc-40370C.

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

BRDG1 siRNA (h) is recommended for the inhibition of BRDG1 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.

GENE EXPRESSION MONITORING

BRDG1 (F-12): sc-398691 is recommended as a control antibody for monitoring of BRDG1 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 BRDG1 gene expression knockdown using RT-PCR Primer: BRDG1 (h)-PR: sc-40370-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.