

BRD1 siRNA (h): sc-72663

BACKGROUND

BRD1 (bromodomain-containing protein 1, Peregrin-like protein) is a 1,058 amino acid protein that is encoded by the human gene BRD1 and shares homology to Peregrin, a protein thought to function as a transcription factor. BRD1, like Peregrin, is a nuclear protein that contains one bromodomain, one PHD-type zinc finger and one PWWP domain. The zinc finger and leucine zipper domains of Peregrin and BRD1 have significant homology to those of AF-10 and MLLT6, two proteins that are involved in various acute leukemias. This suggests a possible role of BRD1 in the development of leukemia. Additionally, the chromosomal region (22q12-13) containing BRD1 may contain one or more susceptibility genes for schizophrenia (SZ) and bipolar affective disorder (BPD), implicating BRD1 in the pathogenesis of these mental illnesses.

REFERENCES

- Gregorini, A., Sahin, F.I., Lillington, D.M., Meerabux, J., Saha, V., McCullagh, P., Bocci, M., Menevse, S., Papa, S. and Young, B.D. 1997. Gene BR140, which is related to AF-10 and AF17, maps to chromosome band 3p25. *Genes Chromosomes Cancer* 17: 269-272.
- Linder, B., Jones, L.K., Chaplin, T., Mohd-Sarip, A., Heinlein, U.A., Young, B.D. and Saha, V. 1999. Expression pattern and cellular distribution of the murine homologue of AF-10. *Biochim. Biophys. Acta* 1443: 285-296.
- McCullagh, P., Chaplin, T., Meerabux, J., Grenzeliass, D., Lillington, D., Poulsom, R., Gregorini, A., Saha, V. and Young, B.D. 2000. The cloning, mapping and expression of a novel gene, BRL, related to the AF-10 leukaemia gene. *Oncogene* 18: 7442-7452.
- Loeb, C.R., Harris, J.L. and Craik, C.S. 2006. Granzyme B proteolyzes receptors important to proliferation and survival, tipping the balance toward apoptosis. *J. Biol. Chem.* 281: 28326-28335.
- Severinsen, J.E., Bjarkam, C.R., Kiaer-Larsen, S., Olsen, I.M., Nielsen, M.M., Blechingberg, J., Nielsen, A.L., Holm, I.E., Foldager, L., Young, B.D., Muir, W.J., Blackwood, D.H., Corydon, T.J., Mors, O. and Borglum, A.D. 2006. Evidence implicating BRD1 with brain development and susceptibility to both schizophrenia and bipolar affective disorder. *Mol. Psychiatry* 11: 1126-1138.

CHROMOSOMAL LOCATION

Genetic locus: BRD1 (human) mapping to 22q13.33.

PRODUCT

BRD1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BRD1 shRNA Plasmid (h): sc-72663-SH and BRD1 shRNA (h) Lentiviral Particles: sc-72663-V as alternate gene silencing products.

For independent verification of BRD1 (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-72663A, sc-72663B and sc-72663C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

BRD1 siRNA (h) is recommended for the inhibition of BRD1 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 μ M in 66 μ l. 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

BRD1 (F-12): sc-398226 is recommended as a control antibody for monitoring of BRD1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 BRD1 gene expression knockdown using RT-PCR Primer: BRD1 (h)-PR: sc-72663-PR (20 μ l, 599 bp). 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.