SANTA CRUZ BIOTECHNOLOGY, INC.

BRD4 (H-250): sc-48772

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

BRD4 belongs to the BET family, a group of structurally related proteins containing two bromodomains. Through these two domains, BRD4 associates with mitotic chromosomes and its expression correlates with cell growth. Expression of BRD4 inhibits cell cycle progression from G_1 to S, due to binding to the largest subunit of replication factor C (RFC) to prevent DNA elongation. Altered BRD4 function correlates with poorly differentiated carcinoma, with aggresive phenotype and a highly lethal outcome.

REFERENCES

1. French, C.A., et al. 2001. BRD4 bromodomain gene rearrangement in aggressive carcinoma with translocation t(15;19). Am. J. Pathol. 159: 1987-1992.
2. Houzelstein, D., et al. 2002. Growth and early postimplantation defects in mice deficient for the bromodomain-containing protein BRD4. Mol. Cell. Biol. 22: 3794-3802.
3. Maruyama, T., et al. 2002. A mammalian bromodomain protein, BRD4, interacts with replication factor C and inhibits progression to S phase. Mol. Cell. Biol. 22: 6509-6520.
4. French, C.A., et al. 2003. BRD4-NUT fusion oncogene: a novel mechanism in aggressive carcinoma. Cancer Res. 63: 304-307.

CHROMOSOMAL LOCATION

Genetic locus: BRD4 (human) mapping to 19p13.12; Brd4 (mouse) mapping to 17 B1.

SOURCE

BRD4 (H-250) is a rabbit polyclonal antibody raised against amino acids 1031-1280 mapping near the C-terminus of bromodomain-containing protein 4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BRD4 (H-250) is recommended for detection of BRD4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BRD4 siRNA (h): sc-43639, BRD4 siRNA (m): sc-141740, BRD4 shRNA Plasmid (h): sc-43639-SH, BRD4 shRNA Plasmid (m): sc-141740-SH, BRD4 shRNA (h) Lentiviral Particles: sc-43639-V and BRD4 shRNA (m) Lentiviral Particles: sc-141740-V.

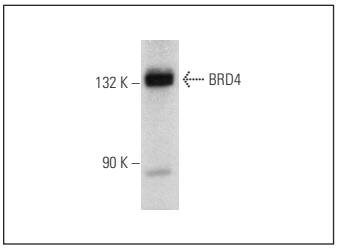
Molecular Weight of BRD4 isoforms: 152/80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

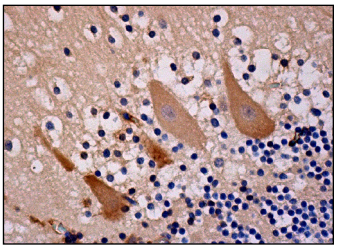
RRECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



BRD4 (H-250): sc-48772. Western blot analysis of BRD4 expression in HeLa whole cell lysate.



BRD4 (H-250): sc-48772. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells, cells in granular layer and cells in molecular layer.

SELECT PRODUCT CITATIONS

1. Devaiah, B.N., et al. 2012. BRD4 is an atypical kinase that phosphorylates serine2 of the RNA polymerase II carboxy-terminal domain. Proc. Natl. Acad. Sci. USA 109: 6927-6932.
2. Devaiah, B.N. and Singer, D.S. 2012. Cross-talk among RNA polymerase II kinases modulates C-terminal domain phosphorylation. J. Biol. Chem. 287: 38755-38766.
3. Narayanan, A., et al. 2012. Use of ATP analogs to inhibit HIV-1 transcription. Virology 432: 219-231.
4. Bottardi, S., et al. 2014. The IKAROS interaction with a complex including chromatin remodeling and transcription elongation activities is required for hematopoiesis. PLoS Genet. 10: e1004827.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.