

BRD4 (K-14): sc-27976

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 G₁ 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 aggressive phenotype and a highly lethal outcome.

REFERENCES

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2. Houzelstein, D., Bullock, S.L., Lynch, D.E., Grigorieva, E.F., Wilson, V.A., Beddington, R.S. 2002. Growth and early postimplantation defects in mice deficient for the bromodomain-containing protein BRD4. *Mol. Cell. Biol.* 22: 3794-3802.
3. Maruyama, T., Farina, A., Dey, A., Cheong, J., Bermudez, V.P., Tamura, T., Sciortino, S., Shuman, J., Hurwitz, J. and Ozato, K. 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., Miyoshi, I., Kubonishi, I., Grier, H.E., Perez-Atayde, A.R. and Fletcher, J.A. 2003. BRD4-NUT fusion oncogene: a novel mechanism in aggressive carcinoma. *Cancer Res.* 63: 304-307.
5. You, J., et al. 2004. Interaction of the bovine papillomavirus E2 protein with BRD4 tethers the viral DNA to host mitotic chromosomes. *Cell* 117: 349-360.

CHROMOSOMAL LOCATION

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

SOURCE

BRD4 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-27976 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

BRD4 (K-14) 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).

BRD4 (K-14) is also recommended for detection of BRD4 in additional species, including equine, canine and porcine.

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.

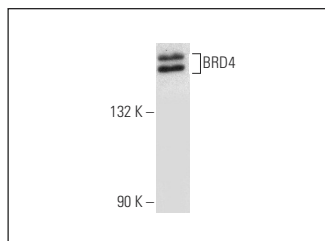
Molecular Weight of BRD4 isoforms: 152/80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, human fetal thymus tissue extract or human PBL whole cell lysate.

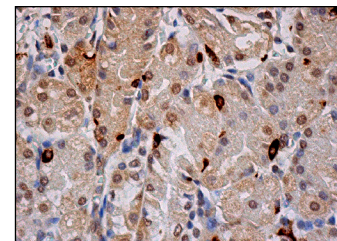
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



BRD4 (K-14): sc-27976. Western blot analysis of BRD4 expression in human PBL whole cell lysate.



BRD4 (K-14): sc-27976. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing nuclear and cytoplasmic staining of glandular cells.

RESEARCH USE

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