SANTA CRUZ BIOTECHNOLOGY, INC.

BRD4 (A-7): sc-518021

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.

CHROMOSOMAL LOCATION

Genetic locus: BRD4 (human) mapping to 19p13.12.

SOURCE

BRD4 (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1148-1169 near the C-terminus of BRD4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BRD4 (A-7) is available conjugated to agarose (sc-518021 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518021 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518021 PE), fluorescein (sc-518021 FITC), Alexa Fluor® 488 (sc-518021 AF488), Alexa Fluor® 546 (sc-518021 AF546), Alexa Fluor® 594 (sc-518021 AF594) or Alexa Fluor® 647 (sc-518021 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518021 AF680) or Alexa Fluor® 790 (sc-518021 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

BRD4 (A-7) is recommended for detection of BRD4 of human origin by Western Blotting (starting dilution 1:100, 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) 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 shRNA Plasmid (h): sc-43639-SH and BRD4 shRNA (h) Lentiviral Particles: sc-43639-V.

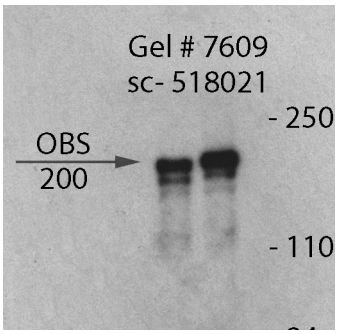
Molecular Weight of BRD4 isoforms: 152/80 kDa.

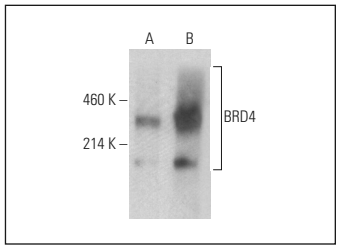
Positive Controls: Hep G2 Cell Lysate: sc-2227, HeLa whole cell lysate: sc-2200 or Caco-2 cell lysate: sc-2262.

STORAGE

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

DATA





BRD4 (A-7): sc-518021. Western blot analysis of BRD4 expression in HeLa (**A**) and Caco-2 (**B**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Uchida, A., et al. 2019. Targeting BCL2 with venetoclax is a promising therapeutic strategy for "double-protein-expression" lymphoma with MYC and BCL2 rearrangements. Haematologica 104: 1417-1421.
2. Li, S., et al. 2019. MiRNA-302e attenuates inflammation in infantile pneumonia though the RelA/BRD4/NFκB signaling pathway. Int. J. Mol. Med. 44: 47-56.
3. Kaiho-Soma, A., et al. 2021. TRIP12 promotes small-molecule-induced degradation through K29/K48-branched ubiquitin chains. Mol. Cell 81: 1411-1424.e7.
4. Zhu, L., et al. 2021. A novel ferroptosis-related gene signature for overall survival prediction in patients with breast cancer. Front. Cell Dev. Biol. 9: 670184.
5. Borgonetti, V., et al. 2021. Combined inhibition of histone deacetylases and BET family proteins as epigenetic therapy for nerve injury-induced neuropathic pain. Pharmacol. Res. 165: 105431.
6. Wang, W., et al. 2022. A histidine cluster determines YY1-compartmentalized coactivators and chromatin elements in phase-separated enhancer clusters. Nucleic Acids Res. 50: 4917-4937.
7. Borgonetti, V., et al. 2022. Dual HDAC/BRD4 inhibitors relieves neuropathic pain by attenuating inflammatory response in microglia after spared nerve injury. Neurotherapeutics 19: 1634-1648.
8. Lyu, Q., et al. 2022. A small proportion of X-linked genes contribute to X chromosome upregulation in early embryos via BRD4-mediated transcriptional activation. Curr. Biol. 32: 4397-4410.e5.
9. Liu, L., et al. 2022. Arginine methylation of BRD4 by PRMT2/4 governs transcription and DNA repair. Sci. Adv. 8: eadd8928.

RESEARCH USE

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