SANTA CRUZ BIOTECHNOLOGY, INC.

BRD7 (B-8): sc-376180

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

BRD7 (bromodomain containing protein 7), also known as BP75 (75 kDa bromodomain protein), NAG4 or CELTIX1, is a 651 amino acid transcription regulation factor that contains one bromodomain and is expressed in liver, pancreas, intestines, kidney and cerebellum. Localizing to the nucleus, BRD7 plays an important role in cell cycle progression, signal-dependent gene expression and cell growth. BRD7 functions as a tumor suppressor, as is suggested by its apparent suppressive role on nasopharyngeal carcinoma (NPC) cell growth when overexpressed. Specifically, BRD7 negatively regulates the expression of cell cycle related proteins such as cyclin D1 and E2F-3, thereby inhibiting the G_1-S progression. BRD7 also interacts with the centrosome associated protein BLOS2 and this BRD7-BLOS2 interaction inhibits the transcriptional suppression activity of BRD7 on various target genes.

CHROMOSOMAL LOCATION

Genetic locus: BRD7 (human) mapping to 16q12.1; Brd7 (mouse) mapping to 8 C3.

SOURCE

BRD7 (B-8) is a mouse monoclonal antibody raised against amino acids 397-473 mapping within an internal region of BRD7 of human origin.

PRODUCT

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

BRD7 (B-8) is available conjugated to agarose (sc-376180 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376180 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376180 PE), fluorescein (sc-376180 FITC), Alexa Fluor® 488 (sc-376180 AF488), Alexa Fluor® 546 (sc-376180 AF546), Alexa Fluor® 594 (sc-376180 AF594) or Alexa Fluor® 647 (sc-376180 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376180 AF680) or Alexa Fluor® 790 (sc-376180 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

BRD7 (B-8) is recommended for detection of BRD7 of mouse, rat and 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 BRD7 siRNA (h): sc-92998, BRD7 siRNA (m): sc-141741, BRD7 shRNA Plasmid (h): sc-92998-SH, BRD7 shRNA Plasmid (m): sc-141741-SH, BRD7 shRNA (h) Lentiviral Particles: sc-92998-V and BRD7 shRNA (m) Lentiviral Particles: sc-141741-V.

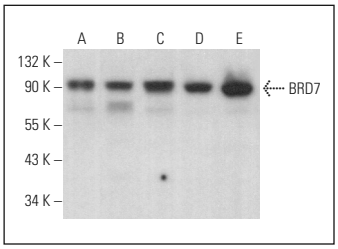
Molecular Weight of BRD7: 75 kDa.

Positive Controls: U-698-M whole cell lysate: sc-364799, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

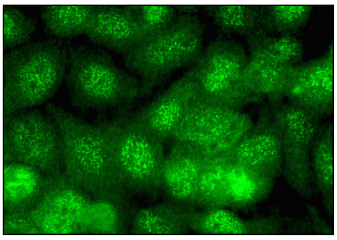
STORAGE

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

DATA



BRD7 (B-8): sc-376180. Western blot analysis of BRD7 expression in Jurkat (**A**), U-698-M (**B**), K-562 (**C**), NIH/3T3 (**D**) and F9 (**E**) whole cell lysates.



BRD7 (B-8): sc-376180. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Yu, H., et al. 2017. LDB2 inhibits proliferation and migration in liver cancer cells by abrogating HEY1 expression. Oncotarget 8: 94440-94449.
2. Alpsoy, A. and Dykhuizen, E.C. 2018. Glioma tumor suppressor candidate region gene 1 (GLTSCR1) and its paralog GLTSCR1-like form SWI/SNF chromatin remodeling subcomplexes. J. Biol. Chem. 293: 3892-3903.
3. Mashtalir, N., et al. 2018. Modular organization and assembly of SWI/SNF family chromatin remodeling complexes. Cell 175: 1272-1288.e20.
4. Liu, Z., et al. 2019. Nucleoporin Seh1 interacts with Olig2/BRD7 to promote oligodendrocyte differentiation and myelination. Neuron 102: 587-601.e7.
5. Pan, J., et al. 2019. The ATPase module of mammalian SWI/SNF family complexes mediates subcomplex identity and catalytic activity-independent genomic targeting. Nat. Genet. 51: 618-626.
6. Schick, S., et al. 2019. Systematic characterization of BAF mutations provides insights into intracomplex synthetic lethalities in human cancers. Nat. Genet. 51: 1399-1410.
7. Sinha, S., et al. 2020. Pbrm1 steers mesenchymal stromal cell osteolineage differentiation by integrating PBAF-dependent chromatin remodeling and BMP/TGF-β signaling. Cell Rep. 31: 107570.
8. Padilla-Benavides, T., et al. 2022. Differential requirements for different subfamilies of the mammalian SWI/SNF chromatin remodeling enzymes in myoblast cell cycle progression and expression of the Pax-7 regulator. Biochim. Biophys. Acta Gene Regul. Mech. 1865: 194801.
9. Carcamo, S., et al. 2022. Altered BAF occupancy and transcription factor dynamics in PBAF-deficient melanoma. Cell Rep. 39: 110637.
10. Guo, A., et al. 2022. cBAF complex components and MYC cooperate early in $CD8^+$ T cell fate. Nature 607: 135-141.

RESEARCH USE

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