SANTA CRUZ BIOTECHNOLOGY, INC.

BRD7 (H-2): sc-376179

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.

REFERENCES

1. Peng, C., et al. 2002. Analysis of bromodomain of BRD7 gene and its prokaryotic expression. Ai Zheng 21: 1167-1172.
2. Zhou, J., et al. 2004. BRD7, a novel bromodomain gene, inhibits G_1-S progression by transcriptionally regulating some important molecules involved in Ras/MEK/ERK and Rb/E2F pathways. J. Cell. Physiol. 200: 89-98.
3. Liu, H., et al. 2006. Cloning and characterization of the BRD7 gene promoter. DNA Cell Biol. 25: 346-358.
4. Zhou, M., et al. 2006. Identification of nuclear localization signal that governs nuclear import of BRD7 and its essential roles in inhibiting cell cycle progression. J. Cell. Biochem. 98: 920-930.
5. Zhou, M., et al. 2006. BRD2 is one of BRD7-interacting proteins and its over-expression could initiate apoptosis. Mol. Cell. Biochem. 292: 205-212.
6. Sun, H., et al. 2007. Solution structure of BRD7 bromodomain and its interaction with acetylated peptides from Histone H3 and H4. Biochem. Biophys. Res. Commun. 358: 435-441.
7. Peng, C., et al. 2007. BRD7 suppresses the growth of nasopharyngeal carcinoma cells (HNE1) through negatively regulating β-catenin and ERK pathways. Mol. Cell. Biochem. 303: 141-149.
8. Sun, J., et al. 2008. Ceap/BLOS2 interacts with BRD7 and selectively inhibits its transcription-suppressing effect on cellular proliferation-associated genes. Cell. Signal. 20: 1151-1158.

CHROMOSOMAL LOCATION

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

SOURCE

BRD7 (H-2) 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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BRD7 (H-2) 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.

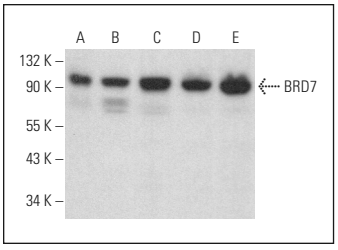
Molecular Weight of BRD7: 75 kDa.

Positive Controls: BRD7 (h): 293T Lysate: sc-116362, Jurkat whole cell lysate: sc-2204 or U-698-M whole cell lysate: sc-364799.

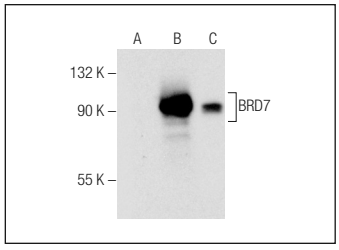
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



BRD7 (H-2): sc-376179. 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 (H-2): sc-376179. Western blot analysis of BRD7 expression in non-transfected 293T: sc-117752 (**A**), human BRD7 transfected 293T: sc-116362 (**B**) and Jurkat (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Heo, J.I., et al. 2016. XIAP-associating factor 1, a transcriptional target of BRD7, contributes to endothelial cell senescence. Oncotarget 7: 5118-5130.

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.