abcam

ab314054

Anti-BRD4 antibody [BL-151-6F11] - BSA free

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.8 - 8.6 Preservative: 0.09% Sodium azide Constituents: 98% Borate buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human BRD4 aa 1300 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link O60885
Clone number	BL-151-6F11

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse

Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Tested

Species	Human
Dilution info	-

Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Target data

See full target information BRD4

Function

Chromatin reader protein that recognizes and binds acetylated histones and plays a key role in transmission of epigenetic memory across cell divisions and transcription regulation (PubMed:20871596, PubMed:23086925, PubMed:23317504, PubMed:29176719, PubMed:29379197). Remains associated with acetylated chromatin throughout the entire cell cycle and provides epigenetic memory for postmitotic G1 gene transcription by preserving acetylated chromatin status and maintaining high-order chromatin structure (PubMed:22334664, PubMed:23317504, PubMed:23589332). During interphase, plays a key role in regulating the transcription of signal-inducible genes by associating with the P-TEFb complex and recruiting it to promoters (PubMed:16109376, PubMed:16109377, PubMed:19596240, PubMed:23589332, PubMed:24360279). Also recruits P-TEFb complex to distal enhancers, so called anti-pause enhancers in collaboration with JMJD6 (PubMed:16109376, PubMed:16109377, PubMed:19596240, PubMed:23589332, PubMed:24360279). BRD4 and JMJD6 are required to form the transcriptionally active P-TEFb complex by displacing negative regulators such as HEXIM1 and 7SKsnRNA complex from P-TEFb, thereby transforming it into an active form that can then phosphorylate the C-terminal domain (CTD) of RNA polymerase II (PubMed:16109376, PubMed:16109377, PubMed:19596240, PubMed:23589332, PubMed:24360279). Regulates differentiation of naive CD4(+) T-cells into T-helper Th17 by promoting recruitment of P-TEFb to promoters (By similarity). Promotes phosphorylation of 'Ser-2' of the C-terminal domain (CTD) of RNA polymerase II (PubMed:23086925). According to a report, directly acts as an atypical protein kinase and mediates phosphorylation of 'Ser-2' of the C-terminal domain (CTD) of RNA polymerase II; these data however need additional evidences in vivo (PubMed:22509028). In addition to acetylated

histones, also recognizes and binds acetylated RELA, leading to further recruitment of the P-TEFb complex and subsequent activation of NF-kappa-B (PubMed:19103749). Also acts as a regulator of p53/TP53-mediated transcription: following phosphorylation by CK2, recruited to p53/TP53 specific target promoters (PubMed:23317504). Isoform B. Acts as a chromatin insulator in the DNA damage response pathway. Inhibits DNA damage response signaling by recruiting the condensin-2 complex to acetylated histones, leading to chromatin structure remodeling, insulating the region from DNA damage response by limiting spreading of histone H2AX/H2A.x phosphorylation.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	Up to 12 months
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The Brd4 protein also known as Bromodomain containing protein 4 plays an important role as a transcriptional regulator. It recognizes acetylated lysine residues on histone tails through its bromodomains. This binding impacts chromatin structure and transcriptional activation. The Brd4 protein has a molecular weight of around 150 kDa and is often used as a marker in studies using Brd4 western blot techniques. It mainly expresses in the nucleus of most cell types and is an important focus for developing Brd4 anticuerpos useful for detecting protein size discrepancies in research.
Biological function summary	Brd4 plays a significant role in regulating gene expression during cell cycle progression. It interacts with the Mediator complex enabling communication between transcriptional activators and RNA polymerase II. This protein is integral for maintaining chromatin in an active state ensuring accessibility for transcription

	machinery. Moreover Brd4 size and functionality relate to the elongation of transcription by RNA polymerase II ensuring the seamless expression of genes essential for cellular functions.
Pathways	Brd4 integrates into transcriptional and epigenetic regulation pathways. It acts in the positive regulation of the MYC pathway directly linking Brd4 with proto-oncogene c-Myc. Also Brd4 engages in the JAK/STAT signaling pathway where its activity affects cell growth and immune response. These interactions establish Brd4 as a central regulator within these pathways facilitating communication and coordination among molecular players.
Associated diseases and disorders	Brd4 link heavily to cancer and inflammatory diseases. Aberrant Brd4 activity often associates with various cancers including leukemia where its regulation impacts oncogenic drivers. Clinically targeting Brd4 presents a therapeutic avenue as its inhibition affects cyclin-dependent kinase 9 (CDK9) an important regulator of the cell cycle. Similarly Brd4 alterations implicate in inflammatory disorders impacting nuclear factor kappa-light-chain-enhancer of activated B cells (NF-kB) signaling revealing pathways for intervening in pathogenic processes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

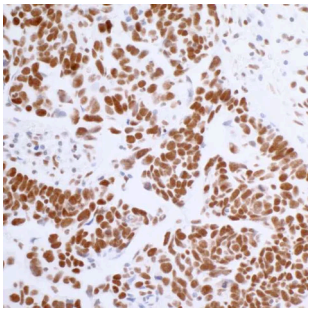
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

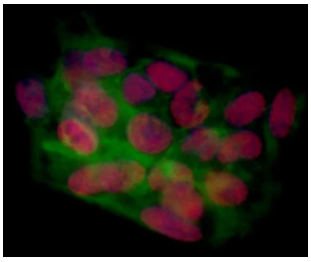
Full details and terms and conditions can be found here:
Terms & Conditions.

7 product images



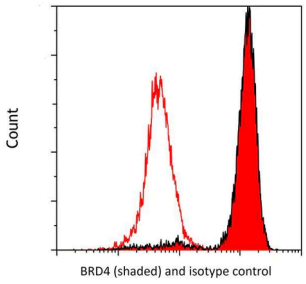
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRD4 antibody [BL-151-6F11] - BSA free (ab314054)

Detection of human BRD4 in FFPE ovarian carcinoma by IHC Sample: FFPE section of ovarian carcinoma. Antibody: Rabbit anti-BRD4 recombinant monoclonal antibody [BL-151-6F11] (A700-005 lot 1) used at 1:50. Secondary: 594-conjugated goat anti-rabbit IgG antibody (A120-201D4).



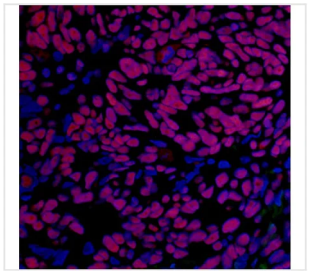
Immunocytochemistry/ Immunofluorescence - Anti-BRD4 antibody [BL-151-6F11] - BSA free (ab314054)

Sample: formaldehyde-fixed Hep-G2 cells. Antibody: Rabbit anti-BRD4 recombinant monoclonal antibody used at 1:50. Secondary: 594-conjugated goat anti-rabbit IgG antibody



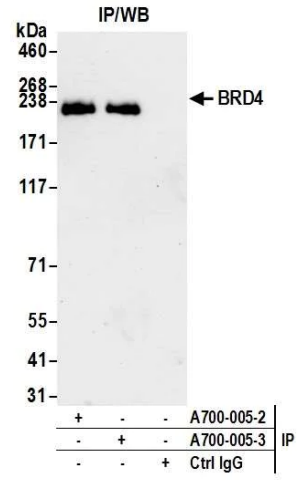
Flow Cytometry - Anti-BRD4 antibody [BL-151-6F11] - BSA free (ab314054)

Detection of human BRD4 (shaded) in KG-1 cells by flow cytometry Antibody: Rabbit anti-BRD4 recombinant monoclonal [BL-151-6F11] or isotype control (unshaded). Secondary: 650-conjugated goat anti-rabbit IgG



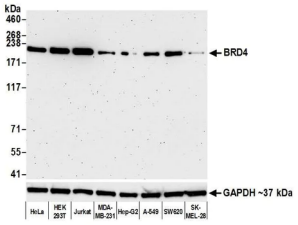
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRD4 antibody [BL-151-6F11] - BSA free (ab314054)

Detection of human BRD4 by immunohistochemistry. Sample: FFPE section of ovarian carcinoma.Antibody: Rabbit anti-BRD4 recombinant monoclonal antibody [BL-151-6F11] used at 1:50. Secondary: 594-conjugated goat anti-rabbit IgG antibody



Immunoprecipitation - Anti-BRD4 antibody [BL-151-6F11] - BSA free (ab314054)

Samples:Whole cell lysate (1.0 mg per IP reaction; 20% of IP loaded) from HeLa cells prepared using NETN lysis buffer. Antibodies:Rabbit anti-BRD4 recombinant monoclonal antibody [BL-151-6F11] used for IP at 20 µl/mg lysate. BRD4 was also immunoprecipitated by a previous lot of this antibody (lot A700-005-2). For blotting immunoprecipitated BRD4, was used at 1:1000. Chemiluminescence with an exposure time of 10 seconds.



Western blot - Anti-BRD4 antibody [BL-151-6F11] - BSA free (ab314054)

Samples: Whole cell lysate (15 µg) from HeLa, HEK293T, Jurkat, MDA-MB-231, Hep-G2, A-549, SW620, and SK-MEL-28 cells prepared using NETN lysis buffer. Antibody:Rabbit anti-BRD4 recombinant monoclonal antibody [BL-151-6F11] (A700-005 lot 3) used at 1:1000. Secondary:HRP-conjugated goat anti-rabbit IgG (A120-101P). Chemiluminescence with an exposure time of 3 minutes. Lower Panel: Rabbit anti-GAPDH (A300-639A).
All lanes:
Western blot - Anti-BRD4 antibody [BL-151-6F11] - BSA free (ab314054) at 1/1000 dilution

Lane 1:
Hela Whole cell lysate at 15 µg

Lane 2:
HEK- 293T Whole cell lysate at 15 µg

Lane 3:
Jurkat Whole cell lysate at 15 µg

Lane 4:
MDA-MB-231 Whole cell lysate at 15 µg

Lane 5:
Hep-G2 Whole cell lysate at 15 µg

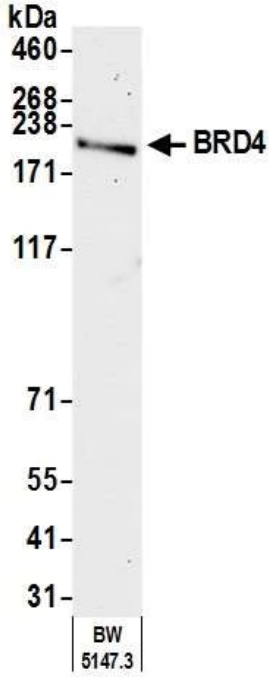
Lane 6:
A-549 Whole cell lysate at 15 µg

Lane 7:
SW 620 Whole cell lysate at 15 µg

Lane 8:
SK-MEL-28 Whole cell lysate at 15 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG



Western blot - Anti-BRD4 antibody [BL-151-6F11] - BSA free (ab314054)

Samples:Whole cell lysate (50 µg) from BW5147.3 cells prepared using NETN lysis buffer.
Antibody:Rabbit anti-BRD4 recombinant monoclonal antibody [BL-151-6F11] used at 1:1000.
Secondary:HRP-conjugated goat anti-rabbit IgG. Chemiluminescence with an exposure time of 30 seconds.
All lanes:
Western blot - Anti-BRD4 antibody [BL-151-6F11] - BSA free (ab314054) at 1/1000 dilution

All lanes:
BW5147.3 Whole cell lysate at 50 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.