abcam

ab139690

Anti-BRD2 antibody [EPR7642] - ChIP Grade

Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690) is a rabbit monoclonal antibody detecting BRD2 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF, ChIP**. Suitable for **Human**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 30 publications

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 50% Tissue culture supernatant, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR7642
Purification technique	Affinity purification Protein A
Concentration	0.601 - 0.652 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/1000
Notes	-

ChIP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	0.5 µg/mL
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information BRD2

Function

Chromatin reader protein that specifically recognizes and binds histone H4 acetylated at 'Lys-5' and 'Lys-12' (H4K5ac and H4K12ac, respectively), thereby controlling gene expression and remodeling chromatin structures (PubMed:17148447, PubMed:17848202, PubMed:18406326, PubMed:20048151, PubMed:20709061, PubMed:20871596). Recruits transcription factors and coactivators to target gene sites, and activates RNA polymerase II machinery for transcriptional elongation (PubMed:28262505). Plays a key role in genome compartmentalization via its association with CTCF and cohesin: recruited to chromatin by CTCF and promotes formation of topologically associating domains (TADs) via its ability to bind acetylated histones, contributing to CTCF boundary formation and enhancer insulation (PubMed:35410381). Also recognizes and binds acetylated non-histone proteins, such as STAT3 (PubMed:28262505). Involved in inflammatory response by regulating differentiation of naive CD4(+) T-cells into T-helper Th17: recognizes and binds STAT3 acetylated at 'Lys-87', promoting STAT3 recruitment to chromatin (PubMed:28262505). In addition to acetylated lysines, also recognizes and binds lysine residues on histones that are both methylated and acetylated on the same side chain to form N6-acetyl-N6-methyllysine (Kacme), an epigenetic mark of active chromatin associated with increased transcriptional initiation (PubMed:37731000). Specifically binds histone H4 acetyl-methylated at 'Lys-5' and 'Lys-12' (H4K5acme and H4K12acme, respectively) (PubMed:37731000).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Notes

What is this antibody validated in?
Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF), ChIP in Human samples.

What is the molecular weight of BRD2?
Anti-BRD2 [EPR7642] - ChIP Grade (ab139690) specifically detects a band for BRD2 (UniProt: P25440) at a molecular weight of 88kDa.

Trusted by the scientific community
Anti-BRD2 [EPR7642] - ChIP Grade (ab139690) was first used in a scientific publication in 2012 and has been cited over 30 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690) has been confirmed by Western blot testing in BRD2 Knockout HAP1 cells.

Other related products
We have a range of other formats of antibody clone [EPR7642] also available for your convenience: ab139690, Alexa Fluor® 488 - ab197865, Alexa Fluor® 647 - ab197866, HRP - ab198536, Alexa Fluor® 555 - ab213347, Alexa Fluor® 594 - ab215507, Carrier free - ab222393

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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.

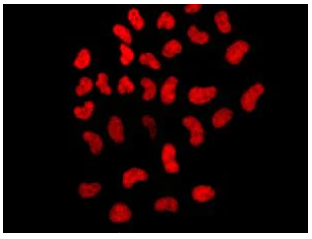
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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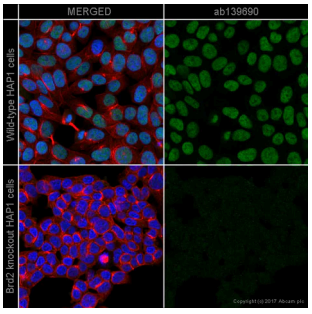
10 product images



Immunocytochemistry/ Immunofluorescence - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

BRD2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-BRD2 antibody

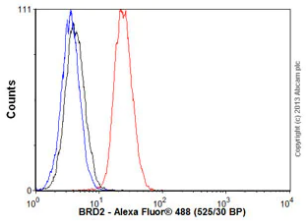
Immunofluorescence analysis of HeLa cells labeling BRD2, with ab139690 at 1/250 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

BRD2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-BRD2 antibody

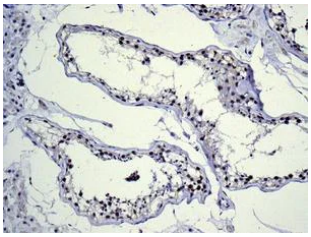
ab139690 staining Brd2 in wild-type HAP1 cells (top panel) and BRD2 knockout HAP1 cells (bottom panel). The cells were fixed with 4% formaldehyde (10min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab139690 at 0.5µg/ml and ab195889 at 1/250 dilution (shown in pseudocolour red) overnight at +4°C, followed by a further incubation at room temperature for 1h with a goat secondary antibody to Rabbit IgG (Alexa Fluor® 488) (ab150081) at 2 µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Flow Cytometry (Intracellular) - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

BRD2 Flow Cytometry (Intracellular) staining using rabbit Anti-BRD2 antibody

Overlay histogram showing HeLa cells stained with ab139690 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab139690, 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

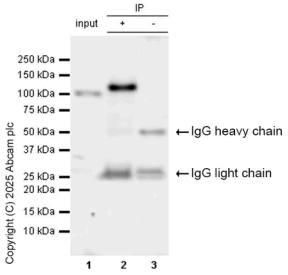
BRD2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-BRD2 antibody

Immunohistochemical analysis of paraffin-embedded Human testis tissue labeling BRD2 with ab139690 at 1/250 dilution.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



ChIP - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

Chromatin was prepared from LNCaP cells according to the Abcam Dual-X-ChIP protocol. Cells were fixed with formaldehyde for 10 minutes.
The ChIP was performed with 25 µg of chromatin, 5 µg of ab139690 (red), and 20 µl of Protein A/G sepharose beads. 5 µg of rabbit normal IgG was added to the beads control (gray). The immunoprecipitated DNA was quantified by real time PCR (Sybr green approach).
Primers and probes are located in the first kb of the transcribed region.



Immunoprecipitation - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

BRD2 was immunoprecipitated from HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate 10 µg with ab139690 1:1000 dilution (0.558 µg/ml). Western blot was performed on the immunoprecipitate using ab139690 at 1/1000 dilution. Capture antibody, 1:30 dilution (2µg in 0.35mg lysates).
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Lysate was freshly made and used for Immunoprecipitation immediately to minimize protein degradation.

All lanes:
Immunoprecipitation - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690) at 1/1000 dilution

Lanes 1 - 2:
HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate at 10 µg

Lane 3:

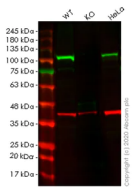
Rabbit monoclonal IgG (ab172730) instead of ab139690 in HeLa whole cell lysate at 10 µg

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 110 kDa

Exposure time: 58s



Western blot - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

BRD2 Western blot staining using rabbit Anti-BRD2 antibody

Lanes 1-3: Merged signal (red and green). Green - ab139690 observed at 110 kDa. Red - loading control ab8245 observed at 36 kDa.
ab139690 Anti-BRD2 antibody [EPR7642] was shown to specifically react with BRD2 in wild-type HEK293T cells. Loss of signal was observed when knockout cell line ab267265 (knockout cell lysate ab257191) was used. Wild-type and BRD2 knockout samples were subjected to SDS-PAGE. ab139690 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated at room temperature for 2.5 hours at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690) at 1/1000 dilution

Lane 1:
Wild-type HEK293T cell lysate at 20 µg

Lane 2:
BRD2 knockout HEK293T cell lysate at 20 µg

Lane 2:
Western blot - Human BRD2 knockout HEK-293T cell line (ab267265)

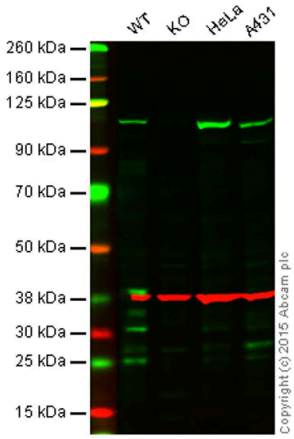
Lane 3:
HeLa cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 126 kDa, 19 kDa, 20 kDa, 26 kDa, 32 kDa, 34 kDa, 44 kDa, 88 kDa

Observed band size: 110 kDa, 26 kDa, 50 kDa



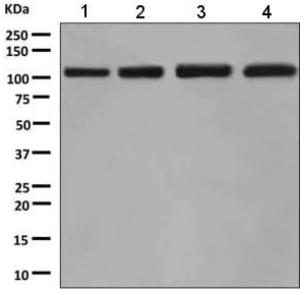
Western blot - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

BRD2 Western blot staining using rabbit Anti-BRD2 antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: BRD2 knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: A431 cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab139690observed at 110 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab139690 was shown to specifically react with BRD2 when BRD2 knockout samples were used. Wild-type and BRD2 knockout samples were subjected to SDS-PAGE. ab139690 and ab8245 (loading control to GAPDH) were diluted 1/1000 and 1/2000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10 000 dilution for 1 h at room temperature before imaging.

All lanes:
Western blot - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

Predicted band size: 88 kDa



Western blot - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

All lanes:
Western blot - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690) at 1/1000 dilution

Lane 1:
MOLT4 cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

Lane 3:
NCCIT cell lysate at 10 µg

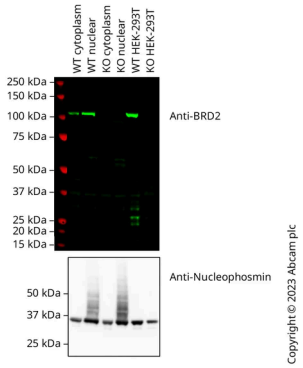
Lane 4:
HeLa cell lysate at 10 µg

Secondary

All lanes:
Standard HRP labelled goat anti-rabbit at 1/2000 dilution

Developed using the ECL technique.

Predicted band size: 88 kDa



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Western blot - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690)

BRD2 Western blot staining using rabbit Anti-BRD2 antibody

False colour image of Western blot: Anti-BRD2 antibody [EPR7642] - ChIP Grade staining at 1/1000 dilution, shown in green; Mouse Anti-Nucleophosmin antibody [FC82291] (ab10530) loading control staining at 2 ug/mL imaged in ECL. In Western blot, ab139690 was shown to bind specifically to BRD2. A band was observed at 110 kDa in wild-type A549 cell lysates with no signal observed at this size in BRD2 knockout cell line. To generate this image, wild-type and BRD2 knockout A549 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3% milk in TBS-0.1% Tween®20 (TBS-T) before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times before development with Optiblot (ECL reagent ab133456) and imaged with 20 seconds exposure time. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and HRP conjugated Goat anti-Mouse (H+L) at 1/20000 dilution.
All lanes:
Western blot - Anti-BRD2 antibody [EPR7642] - ChIP Grade (ab139690) at 1/1000 dilution

Lane 1:
Wild-type A549 ab288558 cytoplasm lysate at 20 µg

Lane 2:
Wild-type A549 ab288558 nuclear lysate at 20 µg

Lane 3:
BRD2 knockout A549 cytoplasm lysate at 20 µg

Lane 4:
BRD2 knockout A549 nuclear lysate at 20 µg

Lane 5:
Wild-type HEK-293T ab255553 cell lysate at 20 µg

Lane 6:
BRD2 knockout HEK-293T cell lysate at 20 µg

Performed under reducing conditions.

Observed band size: 110 kDa

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