abcam

ab237039

Anti-Bcr antibody [EPR22062] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR22062
Purification technique	Affinity purification Protein A
Specificity	IHC is not recommended for human.
Concentration	1.024 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse, Rat
Dilution info	-

Notes	-

Expected

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

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information BCR

Function

Protein with a unique structure having two opposing regulatory activities toward small GTP-binding proteins. The C-terminus is a GTPase-activating protein (GAP) domain which stimulates GTP hydrolysis by RAC1, RAC2 and CDC42. Accelerates the intrinsic rate of GTP hydrolysis of RAC1 or CDC42, leading to down-regulation of the active GTP-bound form (PubMed:17116687, PubMed:1903516, PubMed:7479768). The central Dbl homology (DH) domain functions as guanine nucleotide exchange factor (GEF) that modulates the GTPases CDC42, RHOA and RAC1. Promotes the conversion of CDC42, RHOA and RAC1 from the GDP-bound to the GTP-bound form (PubMed:23940119, PubMed:7479768). The amino terminus contains an intrinsic kinase activity (PubMed:1657398). Functions as an important negative regulator of neuronal RAC1 activity (By similarity). Regulates macrophage functions such as CSF1-directed motility and phagocytosis through the modulation of RAC1 activity (PubMed:17116687). Plays a major role as a RHOA GEF in keratinocytes being involved in focal adhesion formation and keratinocyte differentiation (PubMed:23940119).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab237039 is the carrier-free version of ab222406.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The Bcr protein also known as breakpoint cluster region protein plays an important role in cellular signaling. It has a molecular mass of approximately 160 kDa and is expressed in many cell types such as hematopoietic cells. Bcr functions as a GTPase-activating protein (GAP) for p21rac and other small GTP-binding proteins. This activity influences cellular processes such as growth and differentiation. Bcr is also known for its involvement in the formation of the Bcr-Abl fusion protein an important factor in certain leukemias.
Biological function summary	The Bcr protein acts within cells to regulate signal transduction and cytoskeletal organization. It is part of the pre-B cell receptor (pre-BCR) signaling complex influencing B-cell development. Its GAP activity is important for the regulation of small GTPases impacting cell migration and adhesion. Alterations in Bcr function can affect cellular responses such as apoptosis making it a focus for research into targeted therapies for hematological conditions.
Pathways	The Bcr protein is an important player in signaling pathways involving the Ras superfamily of small GTPases. It is notably involved in the Rho GTPase pathway tied to cytoskeletal dynamics and cell cycle progression. Bcr's interaction with these pathways puts it in relation to proteins like Rac and Cdc42 which are vital for various cellular processes. Disruption in Bcr-associated pathways can lead to aberrant cell growth and metastasis.
Associated diseases and disorders	Bcr has a well-documented link to certain leukemias particularly chronic myeloid leukemia (CML). The Bcr-Abl fusion protein resulting from the translocation of chromosomes 9 and 22 is central to CML pathology. Additionally Bcr connects with other proteins such as Abl in this disease context. Further disruptions in Bcr

signaling can relate to disorders involving immune system dysregulation demonstrating the protein's relevance in both oncology and immunology research.

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

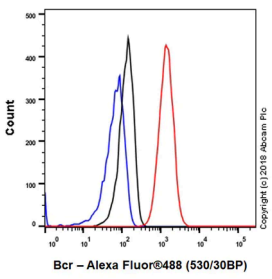
We do not recommend this combination. It is not covered by our product promise.

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.

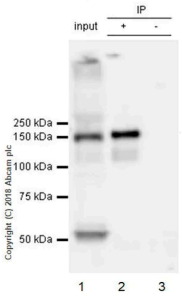
5 product images



Flow Cytometry (Intracellular) - Anti-Bcr antibody [EPR22062] - BSA and Azide free (ab237039)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized K562 (human chronic myelogenous leukemia cell line from bone marrow) cell line labeling Bcr with ab222406 at 1/500 dilution (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells incubated with secondary antibody only) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222406).



Immunoprecipitation - Anti-Bcr antibody [EPR22062] - BSA and Azide free (ab237039)

Bcr was immunoprecipitated from 0.35 mg HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate with ab222406 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab222406 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1/1000 dilution.
Lane 1: HeLa whole cell lysate 10µg (Input).
Lane 2: ab222406 IP in HeLa whole cell lysate (+)
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab222406 in HeLa whole cell lysate (-).

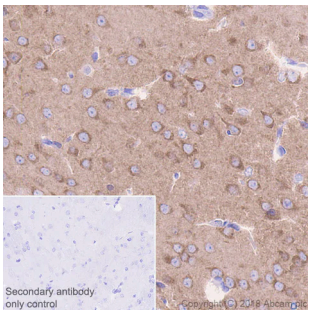
Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 10 seconds.

The 160 kDa and 130 kDa bands are isoforms of BCR (PMID:2494632, PMID:3078961).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222406).

All lanes:
Immunoprecipitation - Anti-Bcr antibody [EPR22062] (ab222406)

Predicted band size: 143 kDa



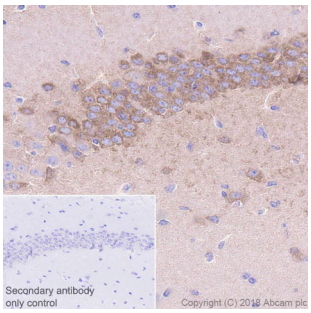
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Bcr antibody [EPR22062] - BSA and Azide free (ab237039)

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

Immunohistochemical analysis of paraffin-embedded rat cerebrum tissue labeling Bcr with ab222406 at 1/500 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) Ready to use. Cytoplasmic staining in rat cerebrum (PMID: 25331951). Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) Ready to use.

Heat-mediated antigen retrieval using ab208572 (Universal HIER antigen retrieval reagent).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222406).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Bcr antibody [EPR22062] - BSA and Azide free (ab237039)

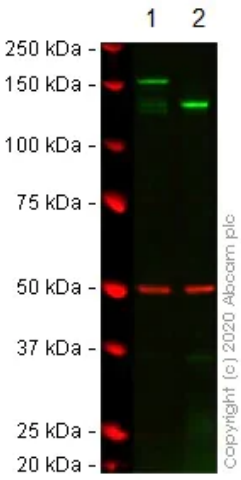
Bcr Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Bcr antibody

Immunohistochemical analysis of paraffin-embedded mouse hippocampus tissue labeling Bcr with ab222406 at 1/500 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) Ready to use. Cytoplasmic staining in mouse hippocampus (PMID: 25331951). Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) Ready to use.

Heat-mediated antigen retrieval using ab208572 (Universal HIER antigen retrieval reagent).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222406).



Western blot - Anti-Bcr antibody [EPR22062] - BSA and Azide free (ab237039)

Bcr Western blot staining using rabbit Anti-Bcr antibody

This data was developed using the same antibody clone in a different buffer formulation (ab222406).
Lanes 1 - 2: Merged signal (red and green). Green - ab222406 observed at 150 kDa. Red - loading control, ab7291 (Mouse anti-Alpha Tubulin [DM1A]) observed at 55kDa.

ab222406 was shown to react with BCR in wild-type HEK-293T cells in western blot. The bands observed in BCR CRISPR/Cas9 edited cell line ab266583 (BCR CRISPR/Cas9 edited cell lysate ab257858) below 150kDa may represent truncated forms and cleaved fragments. This has not been investigated further. Wild-type and BCR CRISPR/Cas9 edited HEK-293T cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3% milk in TBS-T (0.1% Tween®) before incubation with ab222406 and ab7291 (Mouse anti-Alpha Tubulin [DM1A]) overnight at 4<sup>&

176;</sup>C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Bcr antibody [EPR22062] (ab222406) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
BCR CRISPR/Cas9 edited HEK-293T cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 143 kDa

Observed band size: 150 kDa

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