abcam

ab245511

Anti-Bcr antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7 - 8 Preservative: 0.09% Sodium azide Constituents: Tris citrate/phosphate
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human BCR aa 50-100. The exact immunogen used to generate this antibody is proprietary information. Database link P11274
Purification technique	Affinity purification Immunogen
Purification notes	ab245511 was affinity purified using an epitope specific to Bcr immobilized on solid support.

Reactivity data

IP

Tested

Species	Human
Dilution info	10 µg/mg of lysate
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	0.25 µg/cells for 6 µg/cells
Notes	(in 150 µL volume)

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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

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

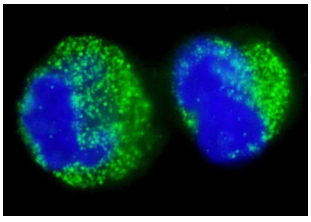
We do not recommend this combination. It is not covered by our product promise.

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:
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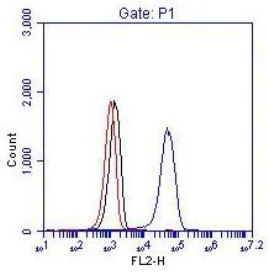
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-Bcr antibody (ab245511)

Bcr Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Bcr antibody

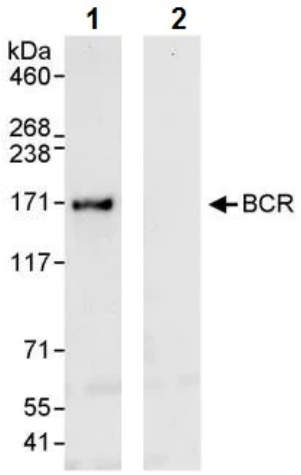
Formalin-fixed, paraffin-embedded K562 (human chronic myelogenous leukemia cell line from bone marrow, contains the chromosomal translocation, t(9:22) that creates the BCR/ABL fusion gene) cells stained for Bcr (Green) using ab245511 at 1/1,000 dilution. Green-fluorescent goat anti rabbit IgG - Alexa Fluor® 488 was used as the secondary antibody at a dilution of 1/1,000.



Flow Cytometry (Intracellular) - Anti-Bcr antibody (ab245511)

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

Flow cytometric analysis of 1 x 10^6 K562 (human chronic myelogenous leukemia cell line from bone marrow) cells stained with 0.25 µg ab245511 in a 150 µl reaction (Blue). Isotype anti-KLH control (black), no antibody (red).



Immunoprecipitation - Anti-Bcr antibody (ab245511)

Bcr was immunoprecipitated from HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate (1 mg for IP, 20% of IP loaded). Western blot was performed on the immunoprecipitate using a different rabbit anti-Bcr primary antibody.
Lane 1: ab245511 IP in HeLa whole cell lysate.
Lane 2: Control IgG in HeLa whole cell lysate.

Detection: Chemiluminescence with an exposure time of 10 seconds.

All lanes:
Immunoprecipitation - Anti-Bcr antibody (ab245511)

Predicted band size: 143 kDa

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