SANTA CRUZ BIOTECHNOLOGY, INC.

Bcr (7C6): sc-103

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Bcr gene, mapping on chromosome 22, was initially identified on the basis of its fusion with the c-Abl proto-oncogene on chromosome 9 resulting in the generation of the Philadelphia chromosome in 90-95% of patients with chronic myelogenous leukemia (CML). The Bcr gene encodes for the break-point cluster region protein (Bcr). A consequence of this translocation is the generation of a Bcr/c-Abl mRNA encoding an activated c-Abl protein kinase. The Bcr gene has been shown to encode a GTPase-activating protein (GAP) specific for the Ras-related GTP-binding protein, Rac 1 p21. While it has been speculated that the Bcr protein may also stimulate Rac 2 p21 GTPase activity, it has no effect on Ras p21 or Rho p21 GTPases. It is of interest that the GAP domain of Bcr maps outside of the region that remains on chromosome 22 (philadelphia chromosome) in CML.

CHROMOSOMAL LOCATION

Genetic locus: BCR (human) mapping to 22q11.23, ABL1 (human) mapping to 9q34.12; Bcr (mouse) mapping to 10 B5.3, Abl1 (mouse) mapping to 2 B.

SOURCE

Bcr (7C6) is a mouse monoclonal antibody raised against amino acids 686-698 mapping within an internal region of Bcr of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Bcr (7C6) is recommended for detection of Bcr/Abl p210 fusion protein in CML, but not Bcr/Abl p190, of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Bcr: 160 kDa.

Molecular Weight of Bcr in Philadelphia-positive leukemia: 130 kDa.

Molecular Weight of Bcr/Abl fusion proteins: 190/210 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or BJAB whole cell lysate: sc-2207.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

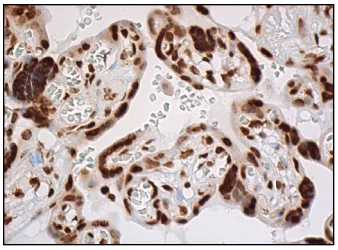
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

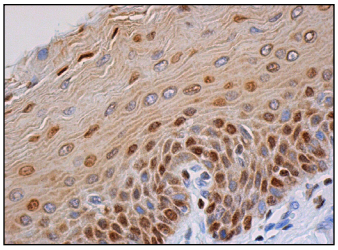
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



Bcr (7C6): sc-103. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear staining of trophoblastic cells.



Bcr (7C6): sc-103. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear and cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Liu, J., et al. 1996. Inhibition of Bcr serine kinase by tyrosine phosphorylation. Mol. Cell. Biol. 16: 998-1005.
2. Zhao, R.C., et al. 2001. A model of human $p210^{Bcr/Abl}$-mediated chronic myelogenous leukemia by transduction of primary normal human $CD34^{+}$ cells with a Bcr/Abl-containing retroviral vector. Blood 97: 2406-2412.
3. Nosaka, T., et al. 2002. Pim-1 expression is sufficient to induce cytokine independence in murine hematopoietic cells, but is dispensable for Bcr-Abl-mediated transformation. Exp. Hematol. 30: 697-702.
4. Stanglmaier, M., et al. 2003. The interaction of the Bcr-Abl tyrosine kinase with the Src kinase Hck is mediated by multiple binding domains. Leukemia 17: 283-289.
5. Kuželová, K., et al. 2010. Changes in cell adhesivity and cytoskeleton-related proteins during imatinib-induced apoptosis of leukemic JURL-MK1 cells. J. Cell. Biochem. 111: 1413-1425.
6. Brown, S., et al. 2014. Monocyte-derived dendritic cells from chronic myeloid leukaemia have abnormal maturation and cytoskeletal function that is associated with defective localisation and signalling by normal Abl1 protein. Eur. J. Haematol. 93: 96-102.
7. Shimizu, S., et al. 2017. Thrombin and activated coagulation factor X stimulate the release of cytokines and fibronectin from nasal polyp fibroblasts via protease-activated receptors. Am. J. Rhinol. Allergy 31: 13-18.
8. Tarragó-Celada, J., et al. 2021. Cysteine and folate metabolism are targetable vulnerabilities of metastatic colorectal cancer. Cancers 13: 425.
9. Wang, H., et al. 2023. The evaluation of Rac1 signaling as a potential therapeutic target of Alzheimer's disease. Int. J. Mol. Sci. 24: 11880.

CONJUGATES

See **Bcr (B-12): sc-28375** for Bcr antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.