SANTA CRUZ BIOTECHNOLOGY, INC.

c-Abl (K-12): sc-131

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Abl oncogene was initially identified as the viral transforming gene of Abelson murine leukemia virus (A-MuLV). The major translational product of c-Abl has been identified as a protein with tyrosine kinase activity and an SH2 domain. The Abl oncogene is implicated in several human leukemias including 90-95% of chronic myelocytic leukemia (CML), 20-25% of adult acute lymphoblastic leukemia (ALL) and 2-5% of pediatric ALL. In these leukemias the c-Abl proto-oncogene undergoes a (9;22) chromosomal translocation producing the Philadelphia (Ph1) chromosome. The molecular consequence of this translocation is the generation of a chimeric Bcr/c-Abl mRNA encoding activated Abl protein-tyrosine kinase. The Bcr gene has been shown to encode a GTPase-activating protein (GAP) specific for the Ras-related GTP-binding protein, p21Rac.

CHROMOSOMAL LOCATION

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

SOURCE

c-Abl (K-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping kinase domain of c-Abl of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-131 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-131 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

c-Abl (K-12) is recommended for detection of c-Abl p120 and chimeric Bcr/Abl proteins 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).

c-Abl (K-12) is also recommended for detection of c-Abl p120 and chimeric Bcr/Abl proteins in additional species, including equine, canine, bovine, porcine and avian.

c-Abl (K-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of c-Abl: 120 kDa.

Molecular Weight of Bcr/Abl fusion protein: 210 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211 or K-562 whole cell lysate: sc-2203.

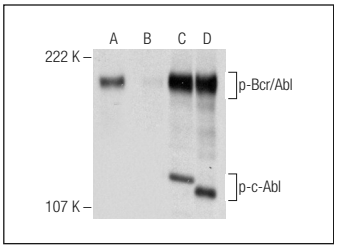
RESEARCH USE

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

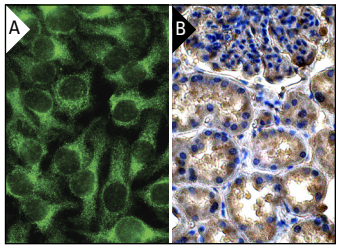
STORAGE

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

DATA



Western blot analysis of c-Abl phosphorylation in untreated (**A**,**C**) and lambda protein phosphatase (sc-200312A) treated (**B**,**D**) K-562 whole cell lysates. Antibodies tested include p-c-Abl (7.Tyr 412): sc-293130 (**A**,**B**) and c-Abl (K-12): sc-131 (**C**,**D**).



c-Abl (K-12): sc-131. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in Glomerulus and Tubules (**B**).

SELECT PRODUCT CITATIONS

1. Kharbanda, S., et al. 1997. Functional interaction between DNA-PK and c-Abl in response to DNA damage. Nature 386: 732-735.
2. Huang, W.C., et al. 2011. Glucosylceramide synthase inhibitor PDMP sensitizes chronic myeloid leukemia T315I mutant to Bcr-Abl inhibitor and cooperatively induces glycogen synthase kinase-3-regulated apoptosis. FASEB J. 25: 3661-3673.
3. Klein, A., et al. 2011. Oxidative stress activates the c-Abl/p73 proapoptotic pathway in Niemann-Pick type C neurons. Neurobiol. Dis. 41: 209-218.
4. Anselmi, F., et al. 2012. c-Abl modulates MAP kinases activation downstream of VEGFR-2 signaling by direct phosphorylation of the adaptor proteins GRB2 and NCK1. Angiogenesis 15: 187-197.
5. Fang, H.T., et al. 2012. Bortezomib interferes with C-KIT processing and transforms the t(8;21)-generated fusion proteins into tumor-suppressing fragments in leukemia cells. Proc. Natl. Acad. Sci. USA 109: 2521-2526.
6. Wohrle, F.U., et al. 2012. Gab2 signaling in chronic myeloid leukemia cells confers resistance to multiple Bcr-Abl inhibitors. Leukemia 27: 118-129.
7. Zhang, M., et al. 2013. A role for c-Abl in cell senescence and spontaneous immortalization. Age 35: 1251-1262.
8. Ting, P.Y., et al. 2015. Identification of small molecules that disrupt signaling between Abl and its positive regulator RIN1. PLoS ONE 10: e0121833.