

# p-c-Abl (7.Tyr 412): sc-293130

## 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 *trans*-location 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.

## REFERENCES

1. Abelson, H.T., et al. 1970. Lymphosarcoma: virus-induced thymic-independent disease in mice. *Cancer Res.* 30: 2213-2222.
2. de Klein, A., et al. 1982. A cellular oncogene is translocated to the Philadelphia chromosome in chronic myelocytic leukemia. *Nature* 300: 765-767.
3. Prywes, R., et al. 1983. Sequences of the A-MuLV protein needed for fibroblasts and lymphoid cell transformation. *Cell* 34: 569-579.

## CHROMOSOMAL LOCATION

Genetic locus: ABL1 (human) mapping to 9q34.12.

## SOURCE

p-c-Abl (7.Tyr 412) is a mouse monoclonal antibody raised against a short amino acid sequence containing Tyr 412 phosphorylated of c-Abl of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-c-Abl (7.Tyr 412) is available conjugated to agarose (sc-293130 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-293130 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

## APPLICATIONS

p-c-Abl (7.Tyr 412) is recommended for detection of Tyr 412 phosphorylated c-Abl of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

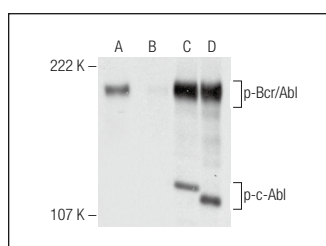
Suitable for use as control antibody for c-Abl siRNA (h): sc-29843, c-Abl shRNA Plasmid (h): sc-29843-SH and c-Abl shRNA (h) Lentiviral Particles: sc-29843-V.

Molecular Weight of p-c-Abl: 120 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## 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).

## SELECT PRODUCT CITATIONS

1. Zabriskie, M.S., et al. 2016. Extreme mutational selectivity of axitinib limits its potential use as a targeted therapeutic for Bcr-Abl1-positive leukemia. *Leukemia* 30: 1418-1421.
2. Wang, Z., et al. 2018. Design, synthesis, and biological evaluation of 3-[Imidazo[1,2-a]pyrazin-3-ylethynyl]-4-isopropyl- N-(3-[(4-methylpiperazin-1-yl)methyl]-5-(trifluoromethyl)phenyl)benzamide as a dual inhibitor of discoidin domain receptors 1 and 2. *J. Med. Chem.* 61: 7977-7990.
3. Balaji Ragunathrao, V.A., et al. 2019. Sphingosine-1-phosphate receptor 1 activity promotes tumor growth by amplifying VEGF-VEGFR2 angiogenic signaling. *Cell Rep.* 29: 3472-3487.e4.
4. Altunel, E., et al. 2020. Development of a precision medicine pipeline to identify personalized treatments for colorectal cancer. *BMC Cancer* 20: 592.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.