SANTA CRUZ BIOTECHNOLOGY, INC.

c-Abl (8E9): sc-56887

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 (8E9) is a mouse monoclonal antibody raised against the SH2 domain of full length recombinant c-Abl of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

c-Abl (8E9) is available conjugated to agarose (sc-56887 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56887 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56887 PE), fluorescein (sc-56887 FITC), Alexa Fluor® 488 (sc-56887 AF488), Alexa Fluor® 546 (sc-56887 AF546), Alexa Fluor® 594 (sc-56887 AF594) or Alexa Fluor® 647 (sc-56887 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56887 AF680) or Alexa Fluor® 790 (sc-56887 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

c-Abl (8E9) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of c-Abl: 120 kDa.

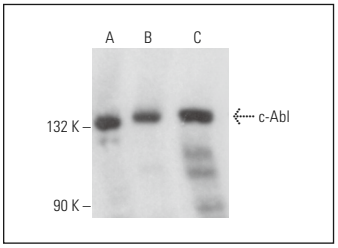
Molecular Weight of Bcr/Abl fusion protein: 210 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, 3T3-L1 cell lysate: sc-2243 or A-10 cell lysate: sc-3806.

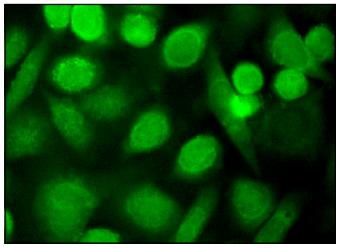
STORAGE

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

DATA



c-Abl (8E9): sc-56887. Western blot analysis of c-Abl expression in K-562 (**A**), 3T3-L1 (**B**) and A-10 (**C**) whole cell lysates.



c-Abl (8E9) FITC: sc-56887 FITC. Direct immunofluorescence staining of formalin-fixed SW480 cells showing diffuse nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Li, B., et al. 2000. Mice deficient in Abl are osteoporotic and have defects in osteoblast maturation. Nat. Genet. 24: 304-308.
2. Rojas, F., et al. 2015. Reactive oxygen species trigger motoneuron death in non-cell-autonomous models of ALS through activation of c-Abl signaling. Front. Cell. Neurosci. 9: 203.
3. Bieerkehazhi, S., et al. 2017. Novel Src/Abl tyrosine kinase inhibitor bosutinib suppresses neuroblastoma growth via inhibiting Src/Abl signaling. Oncotarget 8: 1469-1480.
4. Morita, S., et al. 2017. Targeting Abl-IRE1α signaling spares ER-stressed pancreatic β cells to reverse autoimmune diabetes. Cell Metab. 25: 883-897.
5. Fujita, S., et al. 2018. Pharmacological inhibition of tankyrase induces bone loss in mice by increasing osteoclastogenesis. Bone 106: 156-166.
6. Wang, Y., et al. 2018. Role and regulation of Abelson tyrosine kinase in Crk-associated substrate/Profilin-1 interaction and airway smooth muscle contraction. Respir. Res. 19: 4.
7. Li, C.J., et al. 2018. Long noncoding RNA Bmncr regulates mesenchymal stem cell fate during skeletal aging. J. Clin. Invest. 128: 5251-5266.
8. Kang, S., et al. 2018. Semaphorin 6D reverse signaling controls macrophage lipid metabolism and anti-inflammatory polarization. Nat. Immunol. 19: 561-570.
9. Reuven, N., et al. 2019. Hippo pathway regulation by tyrosine kinases. Methods Mol. Biol. 1893: 215-236.
10. Mazzera, L., et al. 2019. Functional interplay between NIK and c-Abl kinases limits response to Aurora inhibitors in multiple myeloma. Haematologica. E-published.

RESEARCH USE

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