SANTA CRUZ BIOTECHNOLOGY, INC.

Bmi-1 (F-9): sc-390443

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In *Drosophila,* Polycomb (Pc-g) gene family encodes chromatin proteins that are required for the repression of homeotic loci in embryonic development. Mel-18 and Bmi-1, mammalian homologs of *Drosophila* Pc-g group proteins, are similarly expressed during development and implicated in the regulation of gene expression, axial skeleton development, control of proliferation and survival of haematopoietic cells. Mel-18 directly binds to DNA through a RING-finger motif and preferentially associates with juxtaposed enhancer elements on various genes, including Bcl-2, c-Myc and Hox. Mel-18 is an immediate early response gene within the c-Myc/Cdc25 signaling cascade that exhibits tumor suppressor activity and negatively regulates cell cycle progression by blocking S phase entry. Alternatively, Bmi-1 has been identified as a potent oncogene as it contributes to the transcriptional activation of genes implicated in early lymphoid development. Proviral activation of Bmi-1 expression corresponds to enhanced gene-specific activation of other proto-oncogenes, including c-Myc and Pim, subsequently resulting in the progression of lymphomagenesis.

REFERENCES

1. Tagawa, M., et al. 1990. Expression of novel DNA-binding protein with zinc finger structure in various tumor cells. J. Biol. Chem. 265: 20021-20026.
2. Goebl, M.G. 1991. The Bmi-1 and Mel-18 gene products define a new family of DNA-binding proteins involved in cell proliferation and tumorigenesis. Cell 66: 623.

CHROMOSOMAL LOCATION

Genetic locus: BMI1 (human) mapping to 10p12.2; Bmi1 (mouse) mapping to 2 A3.

SOURCE

Bmi-1 (F-9) is a mouse monoclonal antibody raised against amino acids 228-326 of Bmi-1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-390443 X, 200 µg/0.1 ml.

Bmi-1 (F-9) is available conjugated to agarose (sc-390443 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390443 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390443 PE), fluorescein (sc-390443 FITC), Alexa Fluor® 488 (sc-390443 AF488), Alexa Fluor® 546 (sc-390443 AF546), Alexa Fluor® 594 (sc-390443 AF594) or Alexa Fluor® 647 (sc-390443 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390443 AF680) or Alexa Fluor® 790 (sc-390443 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Bmi-1 (F-9) is recommended for detection of Bmi-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

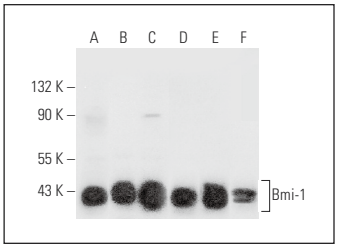
Suitable for use as control antibody for Bmi-1 siRNA (h): sc-29814, Bmi-1 siRNA (m): sc-29815, Bmi-1 shRNA Plasmid (h): sc-29814-SH, Bmi-1 shRNA Plasmid (m): sc-29815-SH, Bmi-1 shRNA (h) Lentiviral Particles: sc-29814-V and Bmi-1 shRNA (m) Lentiviral Particles: sc-29815-V.

Bmi-1 (F-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

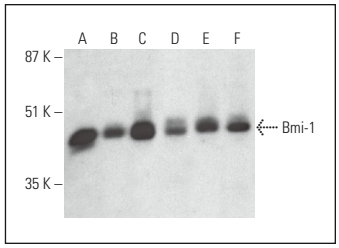
Molecular Weight of Bmi-1: 41 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 whole cell lysate: sc-2203 or Jurkat nuclear extract: sc-2132.

DATA



Bmi-1 (F-9): sc-390443. Western blot analysis of Bmi-1 expression in K-562 (**A**), HeLa (**B**) and Jurkat (**C**) nuclear extracts and K-562 (**D**), Saos-2 (**E**) and PANC-1 (**F**) whole cell lysates.



Bmi-1 (F-9) HRP: sc-390443 HRP. Direct western blot analysis of Bmi-1 expression in K-562 (**A**), HeLa (**B**) and Jurkat (**C**) nuclear extracts and MDA-MB-231 (**D**), MOLT-4 (**E**) and HEL 92.1.7 (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ceppi, P., et al. 2014. CD95 and CD95L promote and protect cancer stem cells. Nat. Commun. 5: 5238.
2. Alzrigat, M., et al. 2017. The polycomb group protein Bmi-1 inhibitor PTC-209 is a potent anti-myeloma agent alone or in combination with epigenetic inhibitors targeting EZH2 and the BET bromodomains. Oncotarget 8: 103731-103743.
3. Liu, S., et al. 2018. MicroRNA-154 functions as a tumor suppressor in non-small cell lung cancer through directly targeting B-cell-specific moloney murine leukemia virus insertion site 1. Oncol. Lett. 15: 10098-10104.
4. Park, J.M., et al. 2019. USP44 promotes the tumorigenesis of prostate cancer cells through EZH2 protein stabilization. Mol. Cells 42: 17-27.
5. Li, J., et al. 2020. PTC209, a specific inhibitor of BMI1, promotes cell cycle arrest and apoptosis in cervical cancer cell lines. Anticancer Res. 40: 133-141.

RESEARCH USE

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