

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

## 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 are mammalian homologs of *Drosophila* Pc-g group proteins, as they are similarly expressed during development and implicated in the regulation of gene expression, axial skeleton development and the 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. Goebel, 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<sub>1</sub> 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.

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## 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).

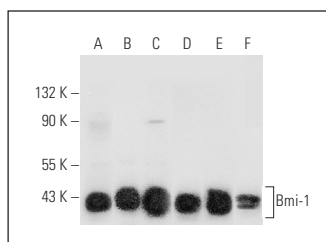
Suitable for use as control antibody for Bmi-1 siRNA (h): sc-29814, Bmi-1 siRNA (m): sc-29815, Bmi-1 shRNA Plasmid (h): sc-29814-SH, Bmi-1 shRNA Plasmid (m): sc-29815-SH, Bmi-1 shRNA (h) Lentiviral Particles: sc-29814-V and Bmi-1 shRNA (m) Lentiviral Particles: sc-29815-V.

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

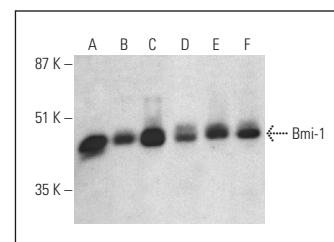
Molecular Weight of Bmi-1: 41 kDa.

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.