SANTA CRUZ BIOTECHNOLOGY, INC.

Bmi-1 (1F4): sc-13519

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 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. 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.
3. van Lohuizen, M., et al. 1991. Sequence similarity between the mammalian Bmi-1 proto-oncogene and the *Drosophila* regulatory genes Psc and Su(z)2. Nature 353: 353-355.

CHROMOSOMAL LOCATION

Genetic locus: Bmi1 (mouse) mapping to 2 A3.

SOURCE

Bmi-1 (1F4) is a mouse monoclonal antibody raised against Bmi-1 fusion protein of *Drosophila melanogaster* origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-13519 X, 200 µg/0.1 ml.

Bmi-1 (1F4) is available conjugated to agarose (sc-13519 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13519 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13519 PE), fluorescein (sc-13519 FITC), Alexa Fluor® 488 (sc-13519 AF488), Alexa Fluor® 546 (sc-13519 AF546), Alexa Fluor® 594 (sc-13519 AF594) or Alexa Fluor® 647 (sc-13519 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13519 AF680) or Alexa Fluor® 790 (sc-13519 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Bmi-1 (1F4) is recommended for detection of Bmi-1 of mouse and *Drosophila* origin, and PSC of *Drosophila* 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

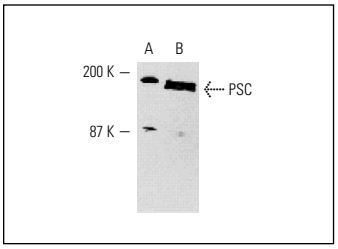
Bmi-1 (1F4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Bmi-1: 46 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, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Bmi-1 (1F4): sc-13519. Western blot analysis of *Drosophila* PSC expression in 0-4 hour embryos (**A**) and 12-24 hour embryos (**B**). Kindly provided by Paul Adler, University of Virginia.

SELECT PRODUCT CITATIONS

1. Ding, Y., et al. 2016. Absence of AMPKα2 accelerates cellular senescence via p16 induction in mouse embryonic fibroblasts. Int. J. Biochem. Cell Biol. 71: 72-80.
2. Li, H., et al. 2017. MicroRNA-452 suppresses pancreatic cancer migration and invasion by directly targeting B-cell-specific Moloney murine leukemia virus insertion site 1. Oncol. Lett. 14: 3235-3242.

STORAGE

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