

# Mel-18 (H-1): sc-515329

## BACKGROUND

In *Drosophila*, Polycomb (Pc- $\gamma$ ) 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- $\gamma$  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. 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.
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: PCGF2 (human) mapping to 17q12; Pcgf2 (mouse) mapping to 11 D.

## SOURCE

Mel-18 (H-1) is a mouse monoclonal antibody raised against amino acids 230-344 of Mel-18 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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-515329 X, 200  $\mu$ g/0.1 ml.

Mel-18 (H-1) is available conjugated to agarose (sc-515329 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515329 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515329 PE), fluorescein (sc-515329 FITC), Alexa Fluor<sup>®</sup> 488 (sc-515329 AF488), Alexa Fluor<sup>®</sup> 546 (sc-515329 AF546), Alexa Fluor<sup>®</sup> 594 (sc-515329 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-515329 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-515329 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-515329 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Mel-18 (H-1) is recommended for detection of Mel-18 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for Mel-18 siRNA (h): sc-38191, Mel-18 siRNA (m): sc-38192, Mel-18 shRNA Plasmid (h): sc-38191-SH, Mel-18 shRNA Plasmid (m): sc-38192-SH, Mel-18 shRNA (h) Lentiviral Particles: sc-38191-V and Mel-18 shRNA (m) Lentiviral Particles: sc-38192-V.

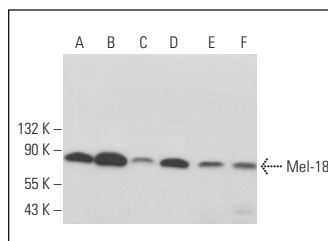
Mel-18 (H-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Mel-18 monomer: 38 kDa.

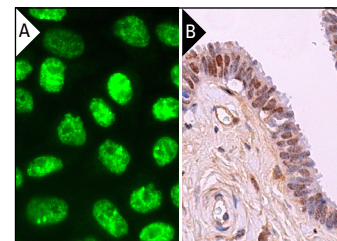
Molecular Weight of Mel-18 dimer: 70-90 kDa.

Positive Controls: A549 cell lysate: sc-2413, NIH/3T3 whole cell lysate: sc-2210 or BYDP whole cell lysate: sc-364368.

## DATA



Mel-18 (H-1): sc-515329. Western blot analysis of Mel-18 expression in A549 (A), NTERA-2 cl.D1 (B), WI-38 (C), NIH/3T3 (D), AMJ2-C8 (E) and BYDP (F) whole cell lysates.



Mel-18 (H-1): sc-515329. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. ElHady, A.K., et al. 2017. Development of selective CLK1 and -4 inhibitors for cellular depletion of cancer-relevant proteins. *J. Med. Chem.* 60: 5377-5391.
2. Choi, R., et al. 2019. Loss of BMI1 in mature olfactory sensory neurons leads to increased olfactory basal cell proliferation. *Int. Forum Allergy Rhinol.* 9: 993-999.

## 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.