SANTA CRUZ BIOTECHNOLOGY, INC.

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

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In *Drosophila,* Polycomb (Pc-γ) 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-γ 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.
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 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-515329 X, 200 µg/0.1 ml.

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

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 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).

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.

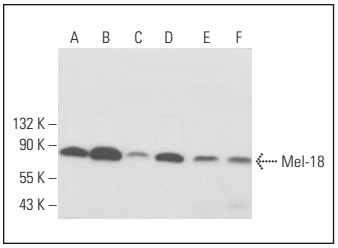
Mel-18 (H-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Mel-18 monomer: 38 kDa.

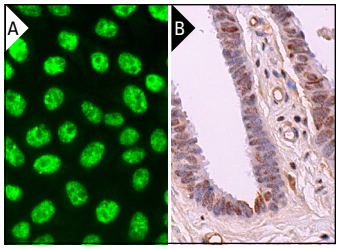
Molecular Weight of Mel-18 dimer: 70-90 kDa.

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.