

Mel-18 (9HL1): sc-130415

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

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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.
4. Ishida, A., et al. 1993. Cloning and chromosome mapping of the human Mel-18 gene which encodes a DNA-binding protein with a new "RING-finger" motif. *Gene* 129: 249-255.
5. Kanno, M., et al. 1995. Mel-18, a Polycomb group-related mammalian gene, encodes a transcriptional negative regulator with tumor suppressive activity. *EMBO J.* 14: 5672-5678.
6. Akasaka, T., et al. 1996. A role for Mel-18, a Polycomb group-related vertebrate gene, during the anteroposterior specification of the axial skeleton. *Development* 122: 1513-1522.
7. Alkema, M.J., et al. 1997. Identification of Bmi-1-interacting proteins as constituents of a multimeric mammalian Polycomb complex. *Genes Dev.* 11: 226-240.
8. Hasegawa, M., et al. 1998. Mammalian Polycomb group genes are categorized as a new type of early response gene induced by B-cell receptor cross-linking. *Mol. Immunol.* 35: 559-563.

CHROMOSOMAL LOCATION

Genetic locus: PCGF2 (human) mapping to 17q12.

SOURCE

Mel-18 (9HL1) is a mouse monoclonal antibody raised against recombinant Mel-18 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Mel-18 (9HL1) is recommended for detection of Mel-18 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

Molecular Weight of Mel-18 monomer: 38 kDa.

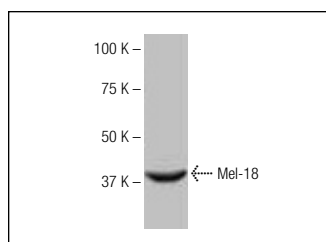
Molecular Weight of Mel-18 dimer: 70-90 kDa.

Positive Controls: human liver extract: sc-363766.

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).

DATA



Mel-18 (9HL1): sc-130415. Western blot analysis of Mel-18 expression in human liver tissue extract.

SELECT PRODUCT CITATIONS

1. Ning, B., et al. 2017. USP26 functions as a negative regulator of cellular reprogramming by stabilising PRC1 complex components. *Nat. Commun.* 8: 349.

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.