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 exhibit 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


CHROMOSOMAL LOCATION

Genetic locus: PCGF2 (human) mapping to 17q12; Pcgf2 (mouse) mapping to 11 D.

SOURCE

Mel-18 (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 325-344 at the C-terminus of Mel-18 of human origin.

PRODUCT

Each vial contains 200 µg IgM 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-390868 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-390868 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

Mel-18 (B-8) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Mel-18 (B-8) is also recommended for detection of Mel-18 in additional species, including equine, canine, bovine and porcine.

Mel-18 (B-8) 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: human liver extract: sc-363766 or A549 nuclear extract.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-56214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κbp-FITC: sc-516140 or m-IgG κbp-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA

![Western blot analysis of Mel-18 expression in human liver tissue extract.](image1)

![Western blot analysis of Mel-18 expression in A549 nuclear extract.](image2)

DATA

![Western blot analysis of Mel-18 expression in A549 nuclear extract.](image1)

![Western blot analysis of Mel-18 expression in human liver tissue extract.](image2)

DATA

![Western blot analysis of Mel-18 expression in human liver tissue extract.](image1)

![Western blot analysis of Mel-18 expression in A549 nuclear extract.](image2)

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.