

# Mi2- $\beta$ (SW-88): sc-134386

## BACKGROUND

In the intact cell, DNA closely associates with histones and other nuclear proteins to form chromatin. The remodeling of chromatin is believed to be a critical component of transcriptional regulation and a major source of this remodeling is brought about by the acetylation of nucleosomal histones. Acetylation of lysine residues in the amino-terminal tail domain of histone results in an allosteric change in the nucleosomal conformation and an increased accessibility to transcription factors by DNA. Conversely, the deacetylation of histones is associated with transcriptional silencing. Chromatin structure alteration may be brought about by the action of ATP-dependent multiprotein complexes. One such complex is the mSin3 corepressor complex, which contains mSin3, the histone deacetylases HDAC1 and HDAC2, the associated proteins SAP 30 and SAP 18, and the autoantigens Mi2- $\alpha$  and Mi2- $\beta$ .

## REFERENCES

- Lee, D.Y., et al. 1993. A positive role for histone acetylation in transcription factor access to nucleosomal DNA. *Cell* 72: 73-82.
- Braunstein, M., et al. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. *Genes Dev.* 7: 592-604.
- Bauer, W.R., et al. 1994. Nucleosome structural changes due to acetylation. *J. Mol. Biol.* 236: 685-690.
- Seelig, H.P., et al. 1995. The major dermatomyositis-specific Mi2 autoantigen is a presumed helicase involved in transcriptional activation. *Arthritis Rheum.* 38: 1389-1399.
- Kingston, R.E., et al. 1996. Repression and activation by multiprotein complexes that alter chromatin structure. *Genes Dev.* 10: 905-920.
- Zhang, Y., et al. 1997. Histone deacetylases and SAP 18, a novel polypeptide, are components of a human Sin3 complex. *Cell* 89: 357-364.
- Zhang, Y., et al. 1998. SAP30, a novel protein conserved between human and yeast, is a component of a histone deacetylase complex. *Mol. Cell* 1: 1021-1031.
- Zhang, Y., et al. 1998. The dermatomyositis-specific autoantigen Mi2 is a component of a complex containing histone deacetylase and nucleosome remodeling activities. *Cell* 95: 279-289.

## CHROMOSOMAL LOCATION

Genetic locus: CHD4 (human) mapping to 12p13.31.

## SOURCE

Mi2- $\beta$  (SW-88) is a mouse monoclonal antibody raised against recombinant Mi2- $\beta$  protein of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>2a</sub> kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

Mi2- $\beta$  (SW-88) is recommended for detection of Mi2- $\beta$  of human origin by Western Blotting (starting dilution 1:200, 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 Mi2- $\beta$  siRNA (h): sc-37953, Mi2- $\beta$  shRNA Plasmid (h): sc-37953-SH and Mi2- $\beta$  shRNA (h) Lentiviral Particles: sc-37953-V.

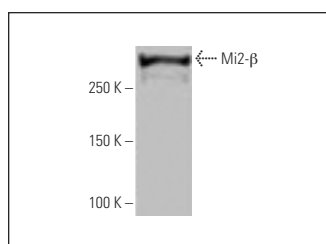
Molecular Weight of Mi2- $\beta$ : 218 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or HeLa nuclear extract: sc-2120.

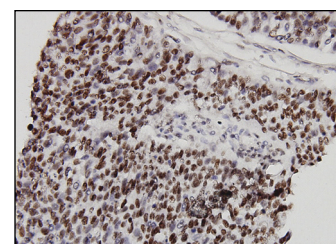
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Mi2- $\beta$  (SW-88): sc-134386. Western blot analysis of Mi2- $\beta$  expression in HeLa nuclear extract.



Mi2- $\beta$  (SW-88): sc-134386. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human transitional cell carcinoma tissue showing nuclear localization.

## 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](http://www.scbt.com) for detailed protocols and support products.