

Miz-1 (B-10): sc-136985

BACKGROUND

The Myc family, including c-Myc-, N-Myc- and L-Myc, are nuclear proteins with relatively short half lives that contribute an important role in cellular processes such as proliferation, differentiation, apoptosis and transformation. The c-Myc protein activates transcription as part of a heteromeric complex with a number of interacting partners, including Max and Mxi1; however the transforming properties of the Myc proto-oncogene are believed to be associated with Myc-mediated transcriptional repression. A POZ domain zinc finger protein, designated Miz-1 for Myc-interacting zinc finger protein-1, is a specific target of Myc-induced gene repression. Miz-1 interacts with Myc, but not Max or other Myc partners, and binding of Myc to Miz-1 requires the helix-loop-helix domain of Myc and a short amphipathic helix located in the carboxy-terminus of Miz-1. Miz-1 associates with DNA elements on the adenovirus major late and cyclin D1 promoters and activates transcription of both promoters. Expression of Miz-1 induces potent growth arrest function, and this latency is reversed by the addition of Myc.

REFERENCES

- Alitalo, K., et al. 1983. Homogeneously staining chromosomal regions contain amplified copies of an abundantly expressed cellular oncogene (c-Myc) in malignant neuroendocrine cells from a human colon carcinoma. *Proc. Natl. Acad. Sci. USA* 80: 1707-1711.
- Nau, M.N., et al. 1985. L-Myc, a new Myc-related gene amplified and expressed in human small cell lung cancer. *Nature* 318: 69-73.

CHROMOSOMAL LOCATION

Genetic locus: ZBTB17 (human) mapping to 1p36.13; Zbtb17 (mouse) mapping to 4 E1.

SOURCE

Miz-1 (B-10) is a mouse monoclonal antibody raised against amino acids 614-803 of Miz-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-136985 X, 200 µg/0.1 ml.

Miz-1 (B-10) is available conjugated to agarose (sc-136985 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-136985 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136985 PE), fluorescein (sc-136985 FITC), Alexa Fluor® 488 (sc-136985 AF488), Alexa Fluor® 546 (sc-136985 AF546), Alexa Fluor® 594 (sc-136985 AF594) or Alexa Fluor® 647 (sc-136985 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-136985 AF680) or Alexa Fluor® 790 (sc-136985 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

Miz-1 (B-10) is recommended for detection of Miz-1 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).

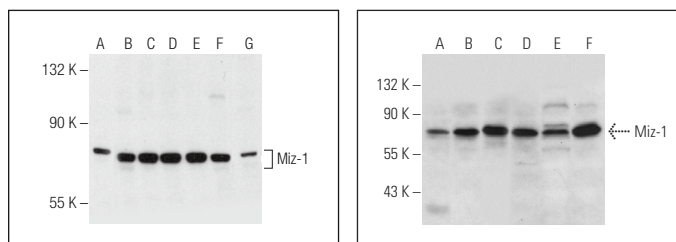
Suitable for use as control antibody for Miz-1 siRNA (h): sc-38085, Miz-1 siRNA (m): sc-38086, Miz-1 shRNA Plasmid (h): sc-38085-SH, Miz-1 shRNA Plasmid (m): sc-38086-SH, Miz-1 shRNA (h) Lentiviral Particles: sc-38085-V and Miz-1 shRNA (m) Lentiviral Particles: sc-38086-V.

Miz-1 (B-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Miz-1: 85/100 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, HeLa whole cell lysate: sc-2200 or CCRF-CEM cell lysate: sc-2225.

DATA



Miz-1 (B-10): sc-136985. Western blot analysis of Miz-1 expression in HeLa (A), HT-1080 (B), Caco-2 (C), HL-60 (D), U-937 (E), NIH/3T3 (F) and HCT 116 (G) whole cell lysates.

Miz-1 (B-10) sc-136985. Western blot analysis of Miz-1 expression in SK-N-MC (A), SJRH30 (B), BC3H1 (C), L8 (D), Raji (E) and CCRF-CEM (F) whole cell lysate.

SELECT PRODUCT CITATIONS

- Huang, Y., et al. 2017. RLIM suppresses hepatocellular carcinogenesis by up-regulating p15 and p21. *Oncotarget* 8: 83075-83087.
- Zhang, W., et al. 2021. The zinc finger protein Miz1 suppresses liver tumorigenesis by restricting hepatocyte-driven macrophage activation and inflammation. *Immunity* 54: 1168-1185.e8.
- Nazio, F., et al. 2021. Targeting cancer stem cells in medulloblastoma by inhibiting AMBRA1 dual function in autophagy and STAT3 signalling. *Acta Neuropathol.* 142: 537-564.
- Yang, J., et al. 2021. Identification of the SARS-CoV-2 entry receptor ACE2 as a direct target for transcriptional repression by Miz1. *Front. Immunol.* 12: 648815.
- Yang, J., et al. 2022. Miz1 promotes KRAS-driven lung tumorigenesis by repressing the protocadherin Pcdh10. *Cancer Lett.* 555: 216025.

RESEARCH USE

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