SANTA CRUZ BIOTECHNOLOGY, INC.

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

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. 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.
2. 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 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-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.

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).

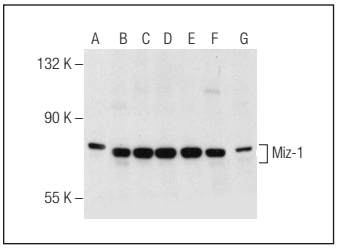
Suitable for use as control antibody for Miz-1 siRNA (h): sc-38085, Miz-1 siRNA (m): sc-38086, Miz-1 shRNA Plasmid (h): sc-38085-SH, Miz-1 shRNA Plasmid (m): sc-38086-SH, Miz-1 shRNA (h) Lentiviral Particles: sc-38085-V and Miz-1 shRNA (m) Lentiviral Particles: sc-38086-V.

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

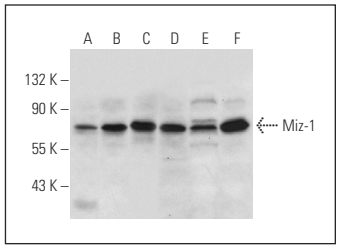
Molecular Weight of Miz-1: 85/100 kDa.

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**), BC_3H1 (**C**), L8 (**D**), Raji (**E**) and CCRF-CEM (**F**) whole cell lysate.

SELECT PRODUCT CITATIONS

1. Huang, Y., et al. 2017. RLIM suppresses hepatocellular carcinogenesis by up-regulating p15 and p21. Oncotarget 8: 83075-83087.
2. 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.
3. 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.
4. 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.
5. 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.