SANTA CRUZ BIOTECHNOLOGY, INC.

MZF-1 (1F7): sc-293218

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Zinc finger genes that encode metal-binding proteins are transcriptional regulators of other genes. Myeloid zinc finger 1 (MZF-1), also designated zinc finger protein 42, and transcription factor ZBP-89, also designated zinc finger protein 148, belong to the Krüppel C_2H_2-type zinc-finger protein family. The gene encoding for the MZF-1 protein maps to chromosome 19q13.43 while the gene encoding for ZBP-89 is localized on chromosome 3q21. These proteins are nuclear proteins involved in the regulation of transcriptional events. MZF-1 regulates transcription during hemopoietic development and plays a role in myeloid cell differentiation. MZF-1 regulates the CD34 promoter in a tissue-specific manner. MZF-1 and FHL3 can form a complex of high molecular mass with other proteins in the nucleus. It is induced by retinoic acid and is primarily expressed in differentiating myeloid cells.

REFERENCES

1. Hromas, R., et al. 1991. A retinoic acid-responsive human zinc finger gene, MZF-1, preferentially expressed in myeloid cells. J. Biol. Chem. 266: 14183-14187.
2. Morris, J.F., et al. 1995. The myeloid zinc finger gene, MZF-1, regulates the CD34 promoter *in vitro*. Blood 86: 3640-3647.
3. Baseggio, L., et al. 2004. Allele-specific binding to the -308 single nucleo-tide polymorphism site in the tumour necrosis factor-α promoter. Eur. J. Immunogenet. 31: 15-19.

CHROMOSOMAL LOCATION

Genetic locus: MZF1 (human) mapping to 19q13.43.

SOURCE

MZF-1 (1F7) is a mouse monoclonal antibody raised against amino acids 419-518 of MZF-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MZF-1 (1F7) is recommended for detection of MZF-1 of human origin by Western Blotting (starting dilution 1:200, 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), 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 MZF-1 siRNA (h): sc-45714, MZF-1 shRNA Plasmid (h): sc-45714-SH and MZF-1 shRNA (h) Lentiviral Particles: sc-45714-V.

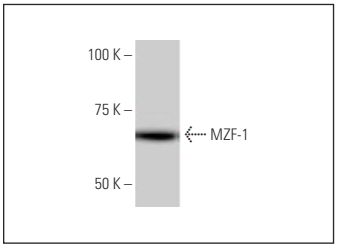
Molecular Weight of MZF1A (MZF1B)/MZF1B-C isoforms: 82/54 kDa.

Positive Controls: Hela S3 nuclear extract.

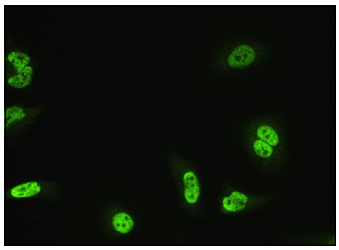
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MZF-1 (1F7): sc-293218. Western blot analysis of MZF-1 expression in HeLa S3 nuclear extract.



MZF-1 (1F7): sc-293218. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Lee, Y.K., et al. 2017. Tumor antigen PRAME is up-regulated by MZF-1 in cooperation with DNA hypomethylation in melanoma cells. Cancer Lett. 403: 144-151.
2. Yue, C.H., et al. 2019. Myeloid zinc finger 1 (MZF-1) maintains the mesenchymal phenotype by down-regulating IGF1R/p38 MAPK/ERα signaling pathway in high-level MZF-1-expressing TNBC cells. Anticancer Res. 39: 4149-4164.
3. Yu, T., et al. 2019. Sublytic C5b-9 induces proliferation of glomerular mesangial cells via ERK5/MZF1/RGC-32 axis activated by FBXO28-TRAF6 complex. J. Cell. Mol. Med. 23: 5654-5671.
4. Liang, X., et al. 2021. Irradiation activates MZF1 to inhibit miR-541-5p expression and promote epithelial-mesenchymal transition (EMT) in radiation-induced pulmonary fibrosis (RIPF) by upregulating slug. Int. J. Mol. Sci. 22: 11309.

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.