SANTA CRUZ BIOTECHNOLOGY, INC.

MAF1 (H-2): sc-515614

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MAF1 is a 256 amino acid protein that localizes to the nucleus and is the human homolog of the yeast MAF1 protein. Interacting with BRF2, MAF1 functions to mediate signals that specifically repress the activity of RNA polymerase III (Pol III), specifically by inhibiting the assembly of TFIIIB onto DNA. The gene encoding MAF1 maps to human chromosome 8, which consists of nearly 146 million base pairs, houses more than 800 genes and is associated with a variety of diseases and malignancies. Schizophrenia, bipolar disorder, trisomy 8, Pfeiffer syndrome, congenital hypothyroidism, Waardenburg syndrome and some leukemias and lymphomas are thought to occur as a result of defects in specific genes that map to chromosome 8.

REFERENCES

1. Pluta, K., et al. 2001. MAF1p, a negative effector of RNA polymerase III in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 21: 5031-5040.
2. Upadhya, R., et al. 2002. MAF1 is an essential mediator of diverse signals that repress RNA polymerase III transcription. Mol. Cell 10: 1489-1494.
3. Oficjalska-Pham, D., et al. 2006. General repression of RNA polymerase III transcription is triggered by protein phosphatase type 2A-mediated dephosphorylation of MAF1. Mol. Cell 22: 623-632.

CHROMOSOMAL LOCATION

Genetic locus: MAF1 (human) mapping to 8q24.3; Maf1 (mouse) mapping to 15 D3.

SOURCE

MAF1 (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 99-122 within an internal region of MAF1 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-515614 X, 200 µg/0.1 ml.

MAF1 (H-2) is available conjugated to agarose (sc-515614 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515614 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515614 PE), fluorescein (sc-515614 FITC), Alexa Fluor® 488 (sc-515614 AF488), Alexa Fluor® 546 (sc-515614 AF546), Alexa Fluor® 594 (sc-515614 AF594) or Alexa Fluor® 647 (sc-515614 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515614 AF680) or Alexa Fluor® 790 (sc-515614 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515614 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

MAF1 (H-2) is recommended for detection of MAF1 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).

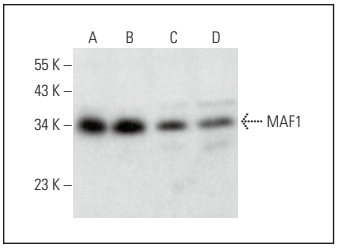
Suitable for use as control antibody for MAF1 siRNA (h): sc-75731, MAF1 siRNA (m): sc-75732, MAF1 shRNA Plasmid (h): sc-75731-SH, MAF1 shRNA Plasmid (m): sc-75732-SH, MAF1 shRNA (h) Lentiviral Particles: sc-75731-V and MAF1 shRNA (m) Lentiviral Particles: sc-75732-V.

MAF1 (H-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

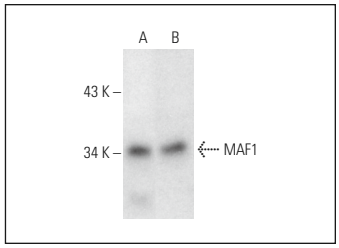
Molecular Weight of MAF1: 35 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, COLO 320DM cell lysate: sc-2226 or SUP-T1 whole cell lysate: sc-364796.

DATA



MAF1 (H-2): sc-515614. Western blot analysis of MAF1 expression in SUP-T1 (**A**), Jurkat (**B**), M1 (**C**) and WEHI-231 (**D**) whole cell lysates.



MAF1 (H-2): sc-515614. Western blot analysis of MAF1 expression in COLO 320DM (**A**) and SUP-T1 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sun, Y., et al. 2019. MAF1 ameliorates cardiac hypertrophy by inhibiting RNA polymerase III through ERK1/2. Theranostics 9: 7268-7281.
2. Gerber, A., et al. 2020. Gene-specific control of tRNA expression by RNA polymerase II. Mol. Cell 78: 765-778.e7.
3. Phillips, E., et al. 2022. MAF1, a repressor of RNA polymerase III-dependent transcription, regulates bone mass. Elife 11: e74740.
4. Gao, L., et al. 2024. Selective gene expression maintains human tRNA anticodon pools during differentiation. Nat. Cell Biol. 26: 100-112.
5. Wei, X., et al. 2025. Feedback loop centered on MAF1 reduces blood-brain barrier damage in sepsis-associated encephalopathy. Cell. Mol. Biol. Lett. 30: 8.

STORAGE

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