10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MAF1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP10204c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q9H063
Other Accession	Q5XIH0, Q9D0U6, A5D9C6, NP_115648.2
Reactivity	Human, Mouse
Predicted	Bovine, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24238
Calculated MW	28771
Antigen Region	90-117

Additional Information

Gene ID	84232
Other Names	Repressor of RNA polymerase III transcription MAF1 homolog, MAF1
Target/Specificity	This MAF1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 90-117 amino acids from the Central region of human MAF1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MAF1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAF1
Function	Plays a role in the repression of RNA polymerase III-mediated transcription in response to changing nutritional, environmental and cellular stress

conditions to balance the production of highly abundant tRNAs, 5S rRNA, and other small non-coding RNAs with cell growth and maintenance (PubMed:18377933, PubMed:20233713, PubMed:20516213, PubMed:20543138). Also plays a key role in cell fate determination by promoting mesorderm induction and adipocyte differentiation (By similarity). Mechanistically, associates with the RNA polymerase III clamp and thereby impairs its recruitment to the complex made of the promoter DNA, TBP and the initiation factor TFIIIB (PubMed:17505538, PubMed:20887893). When nutrients are available and mTOR kinase is active, MAF1 is hyperphosphorylated and RNA polymerase III is engaged in transcription. Stress-induced MAF1 dephosphorylation results in nuclear localization, increased targeting of gene-bound RNA polymerase III and a decrease in the transcriptional readout (PubMed:26941251). Additionally, may also regulate RNA polymerase I and RNA polymerase II- dependent transcription through its ability to regulate expression of the central initiation factor TBP (PubMed:17499043).

Cellular Location Nucleus. Cytoplasm

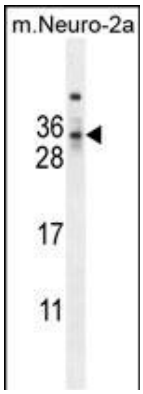
Background

This gene encodes a protein that is similar to Maf1, a Saccharomyces cerevisiae protein highly conserved in eukaryotic cells. Yeast Maf1 is a negative effector of RNA polymerase III (Pol III). It responds to changes in the cellular environment and represses pol III transcription. Biochemical studies identified the initiation factor TFIIIB as a target for Maf1-dependent repression.

References

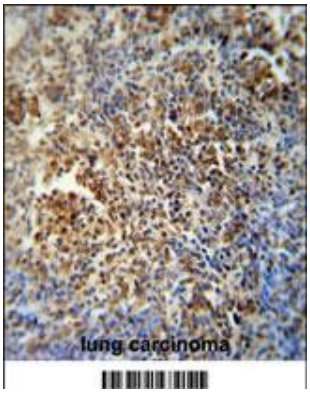
Kantidakis, T., et al. Proc. Natl. Acad. Sci. U.S.A. 107(26):11823-11828(2010)
Shor, B., et al. J. Biol. Chem. 285(20):15380-15392(2010)
Johnson, S.S., et al. Mol. Cell 26(3):367-379(2007)
Lamesch, P., et al. Genomics 89(3):307-315(2007)
Rollins, J., et al. Int. J. Biol. Sci. 3(5):292-302(2007)

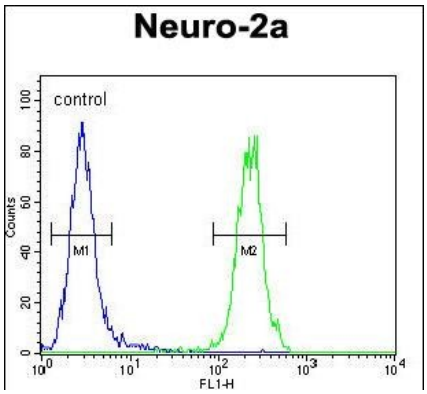
Images



MAF1 Antibody (Center) (Cat. #AP10204c) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane).This demonstrates the MAF1 antibody detected the MAF1 protein (arrow).

MAF1 antibody (Center) (Cat. #AP10204c) immunohistochemistry analysis in formalin fixed and paraffin embedded human lung carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the MAF1 antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.





MAF1 Antibody (Center) (Cat. #AP10204c) flow cytometric analysis of Neuro-2a cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Maf1 and Repression of RNA Polymerase III-Mediated Transcription Drive Adipocyte Differentiation.
- Covalent small ubiquitin-like modifier (SUMO) modification of Maf1 protein controls RNA polymerase III-dependent transcription repression.