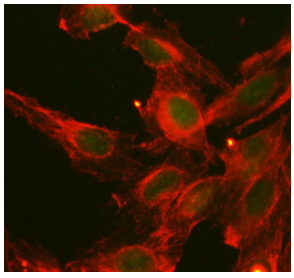
c-Maf Antibody / MAF (FY13396)

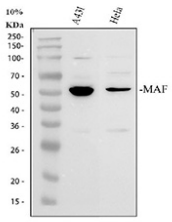
Catalog No.	Formulation	Size
FY13396	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O75444
Localization	Nuclear
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5 ug/ml
Limitations	This c-Maf antibody is available for research use only.



Immunofluorescent staining of FFPE human U-2 OS cells with c-Maf antibody (green) and Alpha Tubulin mAb (red). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot testing of human A431 and HeLa cell lysate with c-Maf antibody. Although the predicted molecular weight of the Sirtuin 3 precursor is ~44 kDa, all samples display a prominent ~29 kDa band corresponding to the mature, mitochondrially processed form of Sirtuin 3, consistent with known post-translational cleavage of its N-terminal targeting sequence.

Description

c-Maf antibody detects MAF, also known as c-Maf, a transcription factor belonging to the large Maf family of basic leucine zipper proteins. The UniProt recommended name is Transcription factor Maf. MAF functions as a key regulator of lineage differentiation, cellular maturation, immune cell specialization, neural development, and tissue specific gene expression. Through its DNA binding domain and leucine zipper mediated dimerization, MAF interacts with Maf recognition elements to activate or repress target genes that shape cellular identity across multiple organ systems.

MAF is a nuclear protein of approximately 373 amino acids containing a basic region required for DNA recognition and a leucine zipper motif that enables homodimer or heterodimer formation with other Maf family proteins. These structural features allow MAF to influence transcriptional networks that are critical during development and in mature tissues. MAF can function as either an activator or repressor depending on the promoter environment, cell type, and availability of cofactors. Its transcriptional influence spans metabolic pathways, immune regulation, neuronal identity, and tissue remodeling responses.

The MAF gene is located on chromosome 16q23.2 and exhibits highly regulated expression across many tissues including immune cells, pancreas, eye, kidney, brain, muscle, and developing embryonic structures. In the immune system, MAF plays a crucial role in shaping T cell and B cell specialization. In T cells, MAF participates in differentiation programs that support T helper 2 and T follicular helper cell lineages by regulating cytokines such as IL4 and IL21 along with costimulatory and germinal center associated genes. In B cells, MAF contributes to plasma cell maturation and antibody secreting cell identity, influencing transcriptional circuits shared with other differentiation factors. These immunologic roles make MAF a major target of study in adaptive immunity.

In neural development, MAF contributes to sensory neuron specification and axonal patterning. It influences the formation of mechanoreceptors in the peripheral nervous system and participates in the transcriptional programs required for maintaining specialized sensory neuron identity. In the eye, MAF plays a critical role in lens fiber differentiation, where it regulates crystallin gene expression and contributes to proper lens formation. Mutations that disrupt MAF function have been associated with congenital cataracts and developmental abnormalities of the eye.

MAF also plays major roles in metabolic tissues. In pancreatic islets, MAF is required for beta cell maturation and for maintaining transcriptional programs that control insulin production, glucose sensing, and metabolic homeostasis. Loss of MAF function in pancreatic tissue can impair insulin secretion and disrupt glucose metabolism. These metabolic roles have positioned MAF as an important transcriptional regulator in studies of endocrine pancreas development, diabetes, and metabolic stress adaptation.

Beyond baseline developmental functions, MAF participates in pathways associated with inflammation, oxidative stress responses, and tissue remodeling. MAF can regulate gene expression downstream of cytokine signaling and contributes to transcriptional adaptation during inflammatory or metabolic challenges. In fibroblasts, macrophages, and endothelial cells, MAF influences growth factor responses, extracellular matrix regulation, and cellular adaptation to stress signals.

Pathologically, dysregulation of MAF expression or activity has been linked to a range of human diseases. Overexpression of MAF has been identified in certain plasma cell neoplasms, particularly subsets of multiple myeloma, where MAF target genes contribute to proliferation, adhesion, and survival signaling. Altered MAF function has also been implicated in autoimmune disease, allergic inflammation, diabetes, congenital cataracts, and neurological disorders. Because MAF influences transcriptional networks central to cell identity, even modest changes in its levels can exert broad physiological effects.

In research settings, c-Maf antibody supports investigation into transcriptional regulation, immune differentiation, pancreatic development, neuronal identity, and metabolic control. MAF is widely studied in adaptive immunity for its roles in coordinating T helper lineage specialization and germinal center formation. It is also a major regulatory factor in studies of islet biology, sensory neuron development, and transcription factor driven disease states. c-Maf antibody enables

detection of MAF expression patterns and supports studies aiming to understand how transcriptional programs adapt during development, inflammation, stress, or disease progression.

c-Maf antibody is validated for use in relevant research applications to detect MAF expression in cells and tissues. NSJ Bioreagents provides c-Maf antibody reagents suitable for immunology, developmental biology, neuroscience, metabolic research, and transcription factor signaling studies.

Application Notes

Optimal dilution of the c-Maf antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human c-Maf/MAF, identical to the related mouse and rat sequences, was used as the immunogen for the c-Maf antibody.

Storage

After reconstitution, the c-Maf antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.