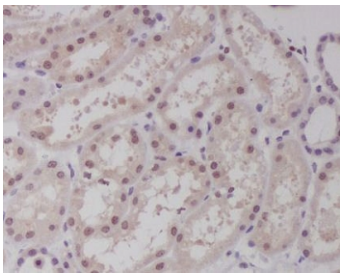
MAF Antibody / c-Maf [clone DHI-13] (RQ4780)

Catalog No.	Formulation	Size
RQ4780	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

Bulk quote request

Availability	1-2 weeks
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	DHI-13
Purity	Affinity purified
UniProt	O75444
Localization	Nuclear
Applications	Immunohistochemistry (FFPE): 1:50-1:200
Limitations	This MAF antibody is available for research use only.



IHC staining of FFPE human kidney tissue with MAF antibody. HIER: boil tissue sections in pH6, 10mM citrate buffer, for 10-20 min and allow to cool before testing.

Description

MAF antibody detects c-Maf, a transcription factor belonging to the large Maf protein family, which plays essential roles in gene regulation across immune, endocrine, neural, and developmental systems. The UniProt recommended name is Transcription factor Maf. As a basic leucine zipper transcription factor, MAF binds specific DNA motifs and regulates gene expression programs that shape differentiation, homeostasis, and specialized cellular functions. The influence of c-Maf

spans diverse biological contexts, making it a central subject of research in immunology, metabolism, sensory neuron development, and transcriptional control.

MAF is a nuclear protein of roughly 373 amino acids featuring two hallmark motifs. The basic DNA binding region enables recognition of Maf response elements within promoters and enhancers, while the leucine zipper domain allows dimerization with other Maf family members. These structural characteristics give MAF substantial regulatory flexibility, allowing it to act as either a transcriptional activator or repressor. Its regulatory influence depends on chromatin context, cofactor availability, and cellular state. This versatility helps explain why MAF regulates so many lineage-specific gene networks.

The MAF gene, located on chromosome 16q23.2, exhibits tightly controlled spatial and temporal expression. In immune cells, c-Maf has emerged as a master regulator of specialized T cell subsets. It guides differentiation of T helper 2 cells by influencing cytokines such as IL4, and it shapes T follicular helper cell identity through regulation of IL21 and costimulatory molecules. MAF also plays important roles in regulatory T cell biology and contributes to the functional programming of additional lymphocyte populations. In B cells, MAF supports the transition toward antibody secreting cell identity, reinforcing transcriptional circuits required for plasma cell maturation.

In the endocrine pancreas, MAF plays a crucial role in beta cell development and functional maturation. It regulates genes involved in insulin production, glucose sensing, and secretory machinery. Insufficient MAF activity during development disrupts beta cell identity and impairs the metabolic adaptability of islet cells. Because of these functions, MAF is central to studies exploring pancreatic differentiation, diabetes, and endocrine lineage specification.

In sensory systems, MAF contributes to neuronal subtype identity, axonal targeting, and circuit formation. It is particularly important for the development of mechanosensory neurons within the dorsal root ganglia. Studies have shown that MAF regulates expression programs required for proper formation of sensory end organs and for the maintenance of specialized neuronal properties. Defects in MAF activity can therefore affect sensory perception and neuronal connectivity.

MAF also plays important roles in other developing tissues, including the lens of the eye. It supports lens fiber cell differentiation and regulates crystallin gene expression. Mutations affecting MAF can lead to congenital cataracts and developmental anomalies involving the craniofacial region. These developmental functions underscore the wide-ranging influence of MAF on tissue specification and morphogenesis.

Beyond its developmental and immunologic roles, MAF is involved in metabolic and stress response pathways. MAF can regulate transcription downstream of cytokine signaling, oxidative stress, and nutrient availability. In macrophages, fibroblasts, and epithelial cells, MAF modulates expression of signaling intermediates and growth factor response genes, contributing to tissue remodeling and inflammatory adaptation. This flexible regulatory behavior makes MAF relevant to studies of chronic inflammation, metabolic stress, wound repair, and environmental adaptation.

Altered MAF expression or activity has been linked to several disease states. In cancer biology, MAF is of particular interest in plasma cell neoplasms such as multiple myeloma, where MAF overexpression contributes to enhanced cell survival, adhesion, and growth. Dysregulated MAF signaling has also been associated with autoimmune disorders, endocrine dysfunction, congenital eye disease, and neurodevelopmental abnormalities. Because MAF regulates key lineage defining genes, even subtle changes in its abundance can have wide-ranging effects on tissue physiology.

MAF antibody supports research into these transcriptional control mechanisms by enabling analysis of c-Maf expression in cultured cells and tissue samples. It is commonly used in studies seeking to understand how immune cells acquire specialized identity, how endocrine tissues regulate metabolic programs, or how neurons establish sensory characteristics. Investigators also examine c-Maf expression in disease models to understand transcriptional misregulation underlying pathology. This antibody is validated for use in relevant research applications to detect MAF protein expression. NSJ Bioreagents provides MAF antibody reagents suitable for developmental biology, immunology, endocrine research, and studies of transcription factor driven regulation.

Application Notes

Optimal dilution of the MAF antibody should be determined by the researcher.

Immunogen

A synthetic peptide specific to human c-Maf / MAF was used as the immunogen for the MAF antibody.

Storage

Store the MAF antibody at -20oC.

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