

NFATC4 Rabbit pAb

Catalog # AP100180

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q14934
Other Accession	Q14934
Host	Rabbit
Clonality	Polyclonal
Calculated MW	95449
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human NF-ATc4
Epitope Specificity	475-525/902
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 IPT/TIG domain. Contains 1 RHD (Rel-like) domain. Database links : UniProtKB/Swiss-Prot: Q14934.2
SUBUNIT	Member of the multicomponent NFATC transcription complex that consists of at least two components, a pre-existing cytoplasmic component NFATC2 and an inducible nuclear component NFATC1. Other members such as NFATC4, NFATC3 or members of the activating protein-1 family, MAF, GATA4 and Cbp/p300 can also bind the complex. NFATC proteins bind to DNA as monomers. Interacts with CREBBP, GATA4, IRAK1, MAPK8, MAPK9 and RPS6KA3.
Post-translational modifications	Phosphorylated by NFATC-kinases; dephosphorylated by calcineurin. Phosphorylated on Ser-168 and Ser-170 by MTOR, IRAK1, MAPK7 and MAPK14, on Ser-213 and Ser-217 by MAPK8 and MAPK9, and on Ser-289 and Ser-344 by RPS6KA3. Phosphorylated by GSK3B.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The product of this gene is a member of the nuclear factors of activated T cells DNA-binding transcription complex. This complex consists of at least two components: a preexisting cytosolic component that translocates to the nucleus upon T cell receptor (TCR) stimulation and an inducible nuclear component. Other members of this family of nuclear factors of activated T cells also participate in the formation of this complex. The product of this gene plays a role in the inducible expression of cytokine genes in T cells, especially in the induction of the IL-2 and IL-4. Alternatively spliced transcript variants encoding different isoforms have been noted for this gene. [provided by RefSeq, Oct 2008].

Additional Information

Gene ID	4776
Other Names	NF-AT3; NF-ATC4; NFAT3; 3110041H08Rik; NFAC4_HUMAN; NFATC4; T-cell

transcription factor NFAT3 (NF-AT3); NFAC4_MOUSE; nuclear factor of activated T cells 4; nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 4; nuclear factor of activated T-cells 4

Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	NFATC4
Function	Ca(2+)-regulated transcription factor that is involved in several processes, including the development and function of the immune, cardiovascular, musculoskeletal, and nervous systems (PubMed:11514544, PubMed:11997522, PubMed:17213202, PubMed:17875713, PubMed:18668201, PubMed:25663301, PubMed:7749981). Involved in T-cell activation, stimulating the transcription of cytokine genes, including that of IL2 and IL4 (PubMed:18347059, PubMed:18668201, PubMed:7749981). Along with NFATC3, involved in embryonic heart development. Following JAK/STAT signaling activation and as part of a complex with NFATC3 and STAT3, binds to the alpha-beta E4 promoter region of CRYAB and activates transcription in cardiomyocytes (By similarity). Involved in mitochondrial energy metabolism required for cardiac morphogenesis and function (By similarity). Transactivates many genes involved in the cardiovascular system, including AGTR2, NPPB/BNP (in synergy with GATA4), NPPA/ANP/ANF and MYH7/beta-MHC (By similarity). Involved in the regulation of adult hippocampal neurogenesis. Involved in BDNF-driven pro-survival signaling in hippocampal adult-born neurons. Involved in the formation of long-term spatial memory and long-term potentiation (By similarity). In cochlear nucleus neurons, may play a role in deafferentation-induced apoptosis during the developmental critical period, when auditory neurons depend on afferent input for survival (By similarity). Binds to and activates the BACE1/Beta-secretase 1 promoter, hence may regulate the proteolytic processing of the amyloid precursor protein (APP) (PubMed:25663301). Plays a role in adipocyte differentiation (PubMed:11997522). May be involved in myoblast differentiation into myotubes (PubMed:17213202). Binds the consensus DNA sequence 5'-GGAAAAT-3' (Probable). In the presence of CREBBP, activates TNF transcription (PubMed:11514544). Binds to PPARG gene promoter and regulates its activity (PubMed:11997522). Binds to PPARG and REG3G gene promoters (By similarity).
Cellular Location	Cytoplasm. Nucleus. Note=When hyperphosphorylated, localizes in the cytosol. When intracellular Ca(2+) levels increase, dephosphorylation by calcineurin/PPP3CA leads to translocation into the nucleus (PubMed:11997522, PubMed:18347059). MAPK7/ERK5 and MTOR regulate NFATC4 nuclear export through phosphorylation at Ser-168 and Ser-170 (PubMed:18347059).
Tissue Location	Widely expressed, with high levels in placenta, lung, kidney, testis and ovary (PubMed:18675896). Weakly expressed in spleen and thymus (PubMed:18675896). In the hippocampus, expressed in the granular layer of the dentate gyrus, in the pyramidal neurons of CA3 region, and in the hippocampal fissure (PubMed:18675896). Expressed in the heart (at protein level) (PubMed:12370307).

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