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# NFATC4 Rabbit pAb

Catalog # AP100180

## Product Information

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| **Application** | IHC-P, IHC-F, IF |
| **Primary Accession** | Q14934 |
| **Other Accession** | Q14934 |
| **Reactivity** | Rat, Mouse |
| **Predicted** | Pig, Human, Dog, Horse, Sheep |
| **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 bycalcineurin. Phosphorylated on Ser-168 and Ser-170 by MTOR, IRAK1,MAPK7 and MAPK14, on Ser-213 and Ser-217 by MAPK8 and MAPK9, and onSer-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 nuclearfactors of activated T cells DNA-binding transcription complex.This complex consists of at least two components: a preexistingcytosolic component that translocates to the nucleus upon T cellreceptor (TCR) stimulation and an inducible nuclear component.Other members of this family of nuclear factors of activated Tcells also participate in the formation of this complex. Theproduct of this gene plays a role in the inducible expression ofcytokine genes in T cells, especially in the induction of the IL-2and IL-4. Alternatively spliced transcript variants encodingdifferent isoforms have been noted for this gene. [provided byRefSeq, Oct 2008]. |

## Additional Information

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| **Gene ID** | 4776 |

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| **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

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| **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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