

Rabbit NFAT3 Polyclonal Antibody | anti-NFAT3 antibody

Phospho-NFAT3 (Ser676) Antibody

CATALOG # AAA329247	HOST Rabbit	REACTIVITY Human, Mouse, Rat	APPLICATIONS ELISA, Immunohistochemistry
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PRODUCT SYNONYMS

NFAT3; Polyclonal Antibody; Phospho-NFAT3 (Ser676) Antibody; cytoplasmic 4; NF ATc4; NF-AT3; NF-ATc4; NFAC4_HUMAN; NFATc4; Nuclear factor of activated T cells cytoplasmic 4; Nuclear factor of activated T cells cytoplasmic calcineurin dependent 4; Nuclear factor of activated T-cells; T cell transcription factor NFAT3; T-cell transcription factor NFAT3; anti-NFAT3 antibody

PRODUCT SPECIFICATIONS

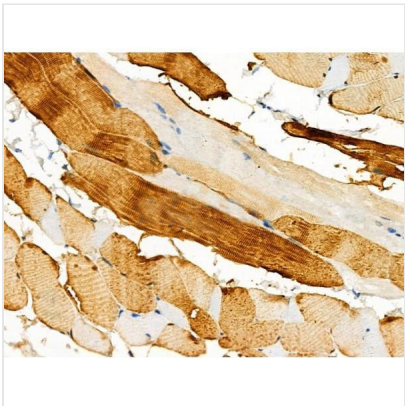
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-NFAT3 (Ser676) Antibody detects endogenous levels of NFAT3 only when phosphorylated at Ser676. Tissue Specificity: Widely expressed, with high levels in placenta, lung, kidney, testis and ovary. Weakly expressed in spleen and thymus. In the hippocampus, expressed in the granular layer of the dentate gyrus, in the pyramidal neurons of CA3 region, and in the hippocampal fissure. Expressed in the heart (at protein level).
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-NFAT3 antibody	ELISA (Peptide ELISA), IHC (Immunohistochemistry)
Immunogen	A synthesized peptide derived from human NFAT3 around the phosphorylation site of Ser676.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Phosphorylated by NFATC-kinases; dephosphorylated by calcineurin/PPP3CA. Phosphorylated on Ser-168 and Ser-170 by MTOR, IRAK1, MAPK7/ERK5 and MAPK14/p38, on Ser-213 and Ser-217 by MAPK8/JNK1 and MAPK9/JNK2, and on Ser-289 and Ser-344 by RPS6KA3. Phosphorylated by GSK3B. Phosphorylation by GSK3B markedly increases NFATC4 ubiquitination (By similarity). Phosphorylation at Ser-168 and Ser-170 is stimulated by UV irradiation. Phosphorylation determines subcellular location: the hyperphosphorylated protein is cytosolic, while the dephosphorylated form is targeted to the nucleus. Ubiquitinated, leading to degradation by the proteasome. Ubiquitination may be stimulated by GSK3B-dependent phosphorylation. Polyubiquitin linkage mainly occurs through 'Lys-48'.
Subunit Structure	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 NFAT proteins, such as NFATC3, or members of the activating protein-1 (AP-1) family and MAF can also bind the complex. NFAT proteins can bind DNA as monomers or dimers. Interacts with CREBBP; this interaction potentiates transcription activation. Interacts with MAPK8/JNK1 and MAPK9/JNK2. Interacts with GATA4 (via the second Zn finger) (By similarity). Interacts (via N-terminus) with IRAK1 (via C-terminus). Interacts with RPS6KA3. Interacts with HOMER1, HOMER2 and HOMER3; this interaction competes with calcineurin/PPP3CA-binding and hence prevents NFATC4 dephosphorylation and activation. Interacts with ESR1 and ESR2; this interaction decreases NFATC4 transcriptional activity. Interacts with MTOR and MAPK7/ERK5.

Similarity	Rel similarity domain (RSD) or Rel homology domain (RHD) allows DNA-binding and cooperative interactions with AP-1 factors.
Subcellular Location	Cytoplasm>Cytosol. 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).
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IHC (Immunohistochemisry)
At 1/100 staining Mouse muscle tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohiostchemistry)
Staining Mouse skin tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)
At 1/100 staining Rat ovarian tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-NFAT3 antibody	Ca (2+)-regulated transcription factor that is involved in several processes, including the development and function of the immune, cardiovascular, musculoskeletal, and nervous systems. Involved in T-cell activation, stimulating the transcription of cytokine genes, including that of IL2 and IL4. Along with NFATC3, involved in embryonic heart development. 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). Plays a role in adipocyte differentiation. May be involved in myoblast differentiation into myotubes. Binds the consensus DNA sequence 5'-GGAAAAT-3' (Probable). In the presence of CREBBP, activates TNF transcription. Binds to PPARG gene promoter and regulates its activity. Binds to PPARG and REG3G gene promoters (By similarity).
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NCBI AND UNIPROT INFORMATION

NCBI GI #	209862845
NCBI GeneID	4776
NCBI Accession #	NP_001129494.1
NCBI GenBank Nucleotide #	NM_001136022.1
UniProt Accession #	Q14934; B4DDG5; B4DY55; B5B2U7; B5B2U8; B5B2U9; B5B2V0; B5B2V1; B5B2V2; B5B2V3; B5B2V4; B5B2V5
Molecular Weight	95,449 Da
NCBI Official Full Name	nuclear factor of activated T-cells, cytoplasmic 4 isoform 1
NCBI Official Synonym Full Names	nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 4
NCBI Official Symbol	NFATC4
NCBI Official Synonym Symbols	NFAT3; NF-ATc4
NCBI Protein Information	nuclear factor of activated T-cells, cytoplasmic 4; NF-AT3; T cell transcription factor NFAT3; T-cell transcription factor NFAT3
UniProt Protein Name	Nuclear factor of activated T-cells, cytoplasmic 4
UniProt Gene Name	NFATC4
UniProt Synonym Gene Names	NFAT3; NF-ATc4; NFATc4; NF-AT3
UniProt Entry Name	NFAC4_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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