10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NFATC4 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13162b

Product Information

Application	IF, WB, E
Primary Accession	Q14934
Other Accession	NP_004545.2, NP_001129494.1
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	95449
Antigen Region	744-773

Additional Information

Gene ID	4776
Other Names	Nuclear factor of activated T-cells, cytoplasmic 4, NF-ATc4, NFATc4, T-cell transcription factor NFAT3, NF-AT3, NFATC4, NFAT3
Target/Specificity	This NFATC4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 744-773 amino acids from the C-terminal region of human NFATC4.
Dilution	IF~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	NFATC4 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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)

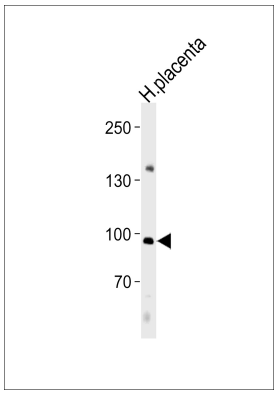
Background

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].

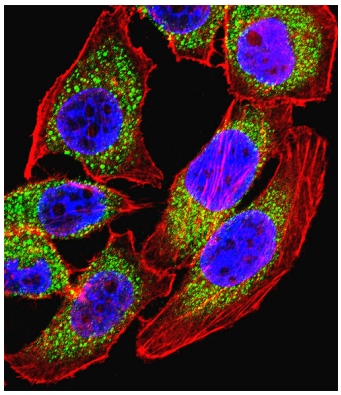
References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010) Al-Daraji, W.I., et al. J. Cutan. Pathol. 37 (9), E21-E36 (2010) : Fougere, M., et al. Oncogene 29(15):2292-2301(2010) Davila, S., et al. Genes Immun. 11(3):232-238(2010) Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)

Images



NFATC4 Antibody (C-term) (Cat. #AP13162b) western blot analysis in human placenta tissue lysates (35ug/lane).This demonstrates the NFATC4 antibody detected the NFATC4 protein (arrow).



Fluorescent confocal image of U251 cell stained with NFATC4 Antibody (C-term)(Cat#AP13162b).U251 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with NFATC4 primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min). NFATC4 immunoreactivity is localized to Cytoplasm significantly.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.