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NFATc4 Polyclonal Antibody

Catalog # AP71268

Product Information

Application	WB, IHC-P, IF, ICC, E
Primary Accession	Q14934
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	95449

Additional Information

Gene ID	4776
Other Names	NFATC4; NFAT3; Nuclear factor of activated T-cells; cytoplasmic 4; NF-ATc4; NFATc4; T-cell transcription factor NFAT3; NF-AT3
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~N/A IF~~1:50~200 ICC~~N/A E~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

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

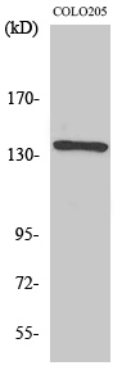
	hippocampal adult-born neurons. Involved in the formation of long-term spatial memory and long-term potentiation (By similarity). In cochlear nucleus neurons, may play a role in deafferentation-induced apoptosis during the developmental critical period, when auditory neurons depend on afferent input 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

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:7749981, PubMed:11514544, PubMed:11997522, PubMed:17875713, PubMed:17213202, PubMed:18668201, PubMed:25663301). Involved in T-cell activation, stimulating the transcription of cytokine genes, including that of IL2 and IL4 (PubMed:7749981, PubMed:18668201, PubMed:18347059). 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) (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).

Images

Western Blot analysis of various cells using NFATc4 Polyclonal Antibody diluted at 1：500



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