

Recombinant Rat NFAC4 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52184

Size: 10ug, 100ug

Protein Name: Nuclear factor of activated T-cells, cytoplasmic 4 (NF-ATc4) (NFATc4) (T-cell transcription factor NFAT3) (NF-AT3)

Synonym: Nfatc4, Nfat3

UniProt ID: D3Z9H7

UniProt Link: www.uniprot.org/uniprotkb/D3Z9H7/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 901 AA

Molecular Weight: 96 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGAASCEDEEELEFKLVFGEEKEAPPLGPGGGPGEELDSEDAPPCCRLALGEPLPYGAAPIGIPRPPPP
RPGMHSPPPRPAPSPGTWESQPPRSVRLGGPGGTAGGTGGGRVLECPISIRITSISPTDPPTSLED
APETWGDGSPRDYPPPEGFGGYREAGGQGGGAFFSPSPGSSSLSSWSFFSDASDEAALYAACDE
VESELNEAASRFGSLSPSPRASPRPWTPEDPWSLYGPSSGGRAPEDSWLLLSAPGPIPASPRPA
SPCGKRRYSSSGTPSSASPALSRRGSLGEEGPEPPPPPPPLPLVRDPSSSGPFDYVGAPPTESVPQK
TRRTSSEQAVALPRSEEPASCNGKLPSTEDSVAAPGALRKEMAGMDYLAVPSPLAWSKARIGGH
SPIFRTSALPLDWPLPSQYEQLELRIEVQPRAHHRAHYETEGSRGAVKAAPGGHPVVKLLGYNEKP
LTLQMFIGHTADERSLRPHAFYQVHRITGKMVATASYEAVVSGTKVLEMTLLPENNMAANIDCAGILKL
RNSDIELRKGETDIGRKNTRVRLVFRVHVPQGGGKVVSVQAASVPIECSQRS AQELPQVEAYSPSA
CSVRGGEELVLTGSNFLPDSKVVFIERGPDGKLQWEEEA AVNRLQSSEVTLTLTIPEYSNKRVSRPV
QVYFYVSNGRKRKRSPTQSFKFLPVIFKEEPLPDSSLRGFPSTSGPPFGPDMDFSPPRPPYPSPHE
DPAYETPYLSEFGYSTPALYPQTGPPPSYRSGLRMFPETGGTTGCARLPSVSFLPRPFPDQYGG
QGSSFPLGLPFSPAPFRPPLPSSPPLEDPFNPQSAVHPLPAEGYNEVGPGYTPGEGASEQEKS RG
GYGSGFRDNVPIQGITLEEVSEIIGRDLSGFARPGEPPA

3. Buffer Composition



Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Nuclear factor of activated T-cells, cytoplasmic 4 (NF-ATc4) (NFATc4) (T-cell transcription factor NFAT3) (NF-AT3) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein 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. Involved in T-cell activation, stimulating the transcription of cytokine genes, including that of IL2 and IL4 (PubMed:12370307, PubMed:32805187). 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 (PubMed:19538478). Involved in mitochondrial energy metabolism required for cardiac morphogenesis and function. Transactivates many genes involved in heart physiology. Along with GATA4, binds to and activates NPPB/BNP promoter (PubMed:9568714). Activates NPPA/ANP/ANF and MYH7/beta-MHC transcription (PubMed:19026640). Binds to and transactivates AGTR2 gene promoter. 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. In cochlear nucleus neurons, may play a role in deafferentation-induced apoptosis during a 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 (By similarity). Binds the consensus DNA sequence 5'-GGAAAT-3' (By similarity). In the presence of CREBBP, activates TNF transcription. Binds to PPARG gene promoter and regulates its activity (By similarity). Binds to PPARG and REG3G gene promoters (By similarity).

Subcellular Localization: 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. MAPK7/ERK5 and MTOR regulate NFATC4 nuclear export through phosphorylation at Ser-168 and Ser-170.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.