Nuclear Factor Nf-Kappa-B P105 Subunit (NFKB1) Rat Recombinant Protein

PRODUCT OVERVIEW

Product Name	Nuclear factor NF-kappa-B p105 subunit (Nfkb1), Recombinant Protein
Full Product Name	Recombinant Rat Nuclear factor NF-kappa-B p105 subunit (Nfkb1)
Product Gene Name	Nfkb1 recombinant protein
Product Synonym Gene Name	Nfkb1
Sequence	REILNPPEKE TQGEGPSLFM ASTKTEAIAP ASTMEDKEED VGFQDNLFLE KALQLAKRHA NALFDYAVTG DVKMLLAVQR HLTAVQDENG DSVLHLAIIH LHAQLVRDLL EVTSGSISDD IINMRNDLYQ TPLHLAVITK QEDVVEDLLR VGADLSLLDR WGNSVLHLAA KEGHDKILGV LLKNSKAALL INHPNGEGLN AIHIAVMSNS LSCLQLLVAA GAEVNAQEQK SGRTALHLAV EYDNISLAGC LLLEGDALVD STTYDGTTPL HIAAGRGSTR LAALLKAAGA DPLVENFEPL YDLDDSWEKA GEDEGVVPGT TPLDMAANWQ VFDILNGKPY EPVFTSDDIL PQGDIKQLTE DTRLQLCKLL EIPDPDKNWA TLAQKLGLGI LNNAFRLSPA PSKTLMDNYE VSGGTIKELV EALRQMGYTE AIEVIQAAFR TPETTASSPV TTAQAHLLPL SSSSTRQHID ELRDNDSVCD SGVETSFRKL SFSESLTGDG PLLSLNKMPH NYGQDGPIEG KI
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	56,554 Da
Sequence Positions	1-522, full length protein
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q63369
Species	Rat
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for Nfkb1 recombinant protein	This gene encodes a 105 kD protein which can undergo cotranslational processing by the 26S proteasome to produce a 50 kD protein. The 105 kD protein is a Rel protein-specific transcription inhibitor and the 50 kD protein is a DNA binding subunit of the NF-kappa-B (NFKB) protein complex. NFKB is a transcription regulator that is activated by various intra- and extra-cellular stimuli such as cytokines, oxidant-free radicals, ultraviolet irradiation, and bacterial or viral products. Activated NFKB translocates into the nucleus and stimulates the expression of genes involved in a wide variety of biological functions. Inappropriate activation of NFKB has been associated with a number of inflammatory diseases while persistent inhibition of NFKB leads to inappropriate immune cell development or delayed cell growth. Two transcript variants encoding different isoforms have been found for this gene.
Other Notes	Small volumes of Nfkb1 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Nfkb1 purchase	MBS1340099 is a recombinant protein targeting Nfkb1. Also known as Recombinant Rat Nuclear factor NF-kappa-B p105 subunit (Nfkb1). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Nfkb1. It may not necessarily be applicable to this product.

NCBI GI #	2500134
NCBI GeneID	81736
NCBI Accession #	Q63369.1
UniProt Primary Accession #	Q63369
UniProt Related Accession #	Q63369
NCBI Official Full Name	Nuclear factor NF-kappa-B p105 subunit
NCBI Official Synonym Full Names	nuclear factor kappa B subunit 1
NCBI Official Symbol	Nfkb1
NCBI Official Synonym Symbols	EBP-1; NF-kB
UniProt Protein Name	Nuclear factor NF-kappa-B p105 subunit
UniProt Synonym Protein Names	DNA-binding factor KBF1; EBP-1; Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
Protein Family	Nuclear factor
UniProt Gene Name	Nfkb1
NCBI Protein Information	nuclear factor NF-kappa-B p105 subunit
NCBI Summary for Nfkb1	gene encodes a 105 kD protein that can be processed to create a 50 kD protein; the larger protein is a Rel protein-specific transcription inhibitor and the smaller protein is a DNA binding subunit of the NF-kappa-B (NFKB) protein complex [RGD, Feb 2006]
UniProt Comments for Nfkb1	NF-kappa-B is a pleiotropic transcription factor present in almost all cell types and is the endpoint of a series of signal transduction events that are initiated by a vast array of stimuli related to many biological processes such as inflammation, immunity, differentiation, cell growth, tumorigenesis and apoptosis. NF-kappa-B is a homo- or heterodimeric complex formed by the Rel-like domain-containing proteins RELA/p65, RELB, NFKB1/p105, NFKB1/p50, REL and NFKB2/p52 and the heterodimeric p65-p50 complex appears to be most abundant one. The dimers bind at kappa-B sites in the DNA of their target genes and the individual dimers have distinct preferences for different kappa-B sites that they can bind with distinguishable affinity and specificity. Different dimer combinations act as transcriptional activators or repressors, respectively. NF-kappa-B is controlled by various mechanisms of post-translational modification and subcellular compartmentalization as well as by interactions with other cofactors or corepressors. NF-kappa-B complexes are held in the cytoplasm in an inactive state complexed with members of the NF-kappa-B inhibitor (I-kappa-B) family. In a conventional activation pathway, I-kappa-B is phosphorylated by I-kappa-B kinases (IKKs) in response to different activators, subsequently degraded thus liberating the active NF-kappa-B complex which translocates to the nucleus. NF-kappa-B heterodimeric p65-p50 and RelB-p50 complexes are transcriptional activators. The NF-kappa-B p50-p50 homodimer is a transcriptional repressor, but can act as a transcriptional activator when associated with BCL3. NFKB1 appears to have dual functions such as cytoplasmic retention of attached NF-kappa-B proteins by p105 and generation of p50 by a cotranslational processing. The proteasome-mediated process ensures the production of both p50 and p105 and preserves their independent function, although processing of NFKB1/p105 also appears to occur post-translationally. p50 binds to the kappa-B consensus sequence 5'-GGRNNYYCC-3', located in the enhancer region of genes involved in immune response and acute phase reactions. Plays a role in the regulation of apoptosis. Isoform 5, isoform 6 and isoform 7 act as inhibitors of transactivation of p50 NF-kappa-B subunit, probably by sequestering it in the cytoplasm. Isoform 3 (p98) (but not p84 or p105) acts as a transactivator of NF-kappa-B-regulated gene expression. In a complex with MAP3K8, NFKB1/p105 represses MAP3K8-induced MAPK signaling; active MAP3K8 is released by proteasome-dependent degradation of NFKB1/p105 ().
Research Articles on Nfkb1	**1.** findings suggest that TNF-alpha decreases mesenteric lymphatic contractility by activating the NF-kappaB-iNOS signaling pathway.

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