Nf-Kappab P65 (RELA) Recombinant Protein

PRODUCT OVERVIEW

Product Name	NF-kappaB p65 (RELA), Recombinant Protein
Full Product Name	NF-kappaB p65 Subunits (12-317) (Untagged) (human), (recombinant)
Product Gene Name	RELA recombinant protein
Host	E Coli
Form/Format	Liquid. In 1X Dulbecco's Phosphate Buffered Saline (DPBS), pH7.4, containing 5% glycerol
Purity/Purification	>=90% (SDS-PAGE) Purified by multi-step chromatography
Preparation and Storage	For long term storage, store at -80 degree C. Avoid freeze/thaw cycles Shipping: Shipped on Dry Ice
Molecular Weight	60,219 Da
Chromosome Location	Chromosome: 11; NC_000011.9 (65421067..65430443, complement). Location: 11q13
OMIM	164014
3D Structure	ModBase 3D Structure for Q04206
Source Note	Produced in E Coli BL21 (lambdaDE3). Recombinant human NF-kappaB p65 subunit (12-317)
Product Categories/Family for RELA recombinant protein	Cellular Analysis; DNA Regulation & Transcription; Stem Cells; Proteostasis; Protein Synthesis & Folding; Posttranslational Modifications; Ubiquitin & UBL Signaling
Related Product Information for RELA recombinant protein	The eukaryotic nuclear factor kappaB (NF-kappaB) plays an important role in inflammation, autoimmune response, cell proliferation, and apoptosis by regulating the expression of genes involved in these processes. Misregulation of the NF-kappaB signal transduction pathway is observed in a variety of human cancers, especially those of lymphoid cell origin. The prototypical inducible NF-kappaB is a heterodimeric complex consisting of p50 and p65, which normally exists in the cytoplasm of the cell as an inactive form due to association with its major inhibitory protein, IkappaBalpha. IkappaBalpha prevents the transport of NF-kappaB into the nucleus by masking its nuclear localization signal. Activation of NF-kappaB by extracellular inducers depends on the phosphorylation and subsequent degradation of IkappaBalpha by the ubiquitin-proteasome pathway. p65 subunit The NF-kappaB p65 subunit is usually thought of as conferring the activation function of the NF-kappaB complex, though its capacity to associate with kappaB DNA in the absence of p50 and its potential utility as an independent transcription factor have also been demonstrated.
Other Notes	Small volumes of RELA 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 RELA purchase	MBS566745 is a recombinant protein targeting RELA. Also known as NF-kappaB p65 Subunits (12-317) (Untagged) (human), (recombinant). Host: E Coli.

ADDITIONAL DETAILS

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

NCBI GI #	223468681
NCBI GeneID	5970
NCBI Accession #	NP_001138610.1

UniProt Primary Accession #	Q04206
UniProt Secondary Accession #	Q6GTV1; Q6SLK1
UniProt Related Accession #	Q04206
GenBank Nucleotide #	NM_001145138.1
NCBI Official Full Name	transcription factor p65 isoform 2
NCBI Official Synonym Full Names	v-rel reticuloendotheliosis viral oncogene homolog A (avian)
NCBI Official Symbol	RELA
NCBI Official Synonym Symbols	p65; NFKB3
UniProt Protein Name	Transcription factor p65
UniProt Synonym Protein Names	Nuclear factor NF-kappa-B p65 subunit; Nuclear factor of kappa light polypeptide gene enhancer in B-cells 3
Protein Family	Bifunctional (p)ppGpp synthase/hydrolase
UniProt Gene Name	RELA
UniProt Synonym Gene Names	NFKB3
UniProt Entry Name	TF65_HUMAN
NCBI Protein Information	transcription factor p65; NF-kappa-B p65delta3; nuclear factor NF-kappa-B p65 subunit; nuclear factor of kappa light polypeptide gene enhancer in B-cells 3
NCBI Summary for RELA	NF-kappa-B is a ubiquitous transcription factor involved in several biological processes. It is held in the cytoplasm in an inactive state by specific inhibitors. Upon degradation of the inhibitor, NF-kappa-B moves to the nucleus and activates transcription of specific genes. NF-kappa-B is composed of NFKB1 or NFKB2 bound to either REL, RELA, or RELB. The most abundant form of NF-kappa-B is NFKB1 complexed with the product of this gene, RELA. Four transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Sep 2011]

UniProt Comments for RELA	NFkB-p65: a subunit of NF-kappa-B transcription complex, which plays a crucial role in inflammatory and immune responses. The inhibitory effect of I-kappa-B upon NF-kappa-B in the cytoplasm is exerted primarily through the interaction with p65. P65 shows a weak DNA-binding site which could contribute directly to DNA binding in the NF-kappa-B complex. There are five NFkB proteins in mammals (RelA/NFkB-p65, RelB, c-Rel, NF-_B1/NFkB-p105, and NF-_B2/NFkB-p100). They form a variety of homodimers and heterodimers, each of which activates its own characteristic set of genes. Three splice-variant isoforms have been identified. Protein type: Transcription factor; Nuclear receptor co-regulator; DNA-binding Chromosomal Location of Human Ortholog: 11q13 Cellular Component: nucleoplasm; transcription factor complex; cytoplasm; cytosol; nucleus Molecular Function: RNA polymerase II transcription factor activity, enhancer binding; identical protein binding; NF-kappaB binding; protein binding; transcription activator binding; DNA binding; protein heterodimerization activity; ubiquitin protein ligase binding; protein complex binding; protein N-terminus binding; chromatin binding; phosphate binding; transcription factor activity; protein kinase binding; transcription factor binding Biological Process: viral reproduction; nerve growth factor receptor signaling pathway; positive regulation of transcription, DNA-dependent; negative regulation of insulin receptor signaling pathway; toll-like receptor 3 signaling pathway; T cell receptor signaling pathway; activation of NF-kappaB transcription factor; toll-like receptor 5 signaling pathway; hair follicle development; toll-like receptor 4 signaling pathway; defense response to virus; response to drug; membrane protein intracellular domain proteolysis; positive regulation of I-kappaB kinase/NF-kappaB cascade; acetaldehyde metabolic process; response to amino acid stimulus; toll-like receptor 2 signaling pathway; organ morphogenesis; positive regulation of chondrocyte differentiation; response to muramyl dipeptide; response to mechanical stimulus; positive regulation of transcription from RNA polymerase II promoter; toll-like receptor 9 signaling pathway; negative regulation of transcription, DNA-dependent; response to progesterone stimulus; negative regulation of protein catabolic process; negative regulation of apoptosis; transcription from RNA polymerase II promoter; response to cAMP; response to morphine; negative regulation of transcription from RNA polymerase II promoter; toll-like receptor 10 signaling pathway; response to insulin stimulus; response to organic substance; positive regulation of cell proliferation; positive regulation of interferon type I production; inflammatory response; aging; positive regulation of Schwann cell differentiation; MyD88-independent toll-like receptor signaling pathway; cytokine and chemokine mediated signaling pathway; liver development; response to UV-B; MyD88-dependent toll-like receptor signaling pathway; positive regulation of interleukin-12 biosynthetic process; regulation of inflammatory response; toll-like receptor signaling pathway; cellular defense response; innate immune response; response to cobalamin
Research Articles on RELA	**1.** Ultraviolet radiation also upregulated mitogen-activated protein kinases and nuclear factor-kappaB/p65 expression via Toll-like receptor 2 and Toll-like receptor 4, and upregulated interferon regulatory factor-3 expression
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