

NFKB1 Protein, Human (His)

Cat. No.:	HY-P71124
Synonyms:	DNA-binding factor KBF1; EBP-1; Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
Species:	Human
Source:	E. coli
Accession:	P19838-2 (M1-G434)
Gene ID:	4790
Molecular Weight:	45-55 kDa

PROPERTIES

AA Sequence	<pre> MAEDDPYLGR PEQMFHLDPS LTHTIFNPEV FQPQMALPTA DGPYLQILEQ PKQRGFRFRY VCEGPSHGGL PGASSEKNKK SYPQVKICNY VGPAKVIVQL VTNGKNIHLH AHSLVGKHCE DGICTVTAGP KDMVVGFANL GILHVTKKKV FETLEARMTE ACIRGYNPGL LVHPDLAYLQ AEGGGDRQLG DREKELIRQA ALQQTKEMDL SVVRLMFTA F LPDSTGSFTR RLEPVVSDAI YDSKAPNASN LKIVRMDRTA GCVTGGEEIY LLCDKVQKDD IQIRFYEEEE NGGVWEGFGD FSPTDVHRQF AIVFKTPKYK DINITKPA SV FVQLRRKSDL ETSEPKPFLY YPEIKDKEEV QRKRQKLM PN FSDSFGGSG AGAGGGGMFG SGGGGGGTGS TGP GYSFPHY GFPTYGGITF HPGTTKSNAG MKHG </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, 20 mM GSH, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	NFKB1 protein serves as a pivotal component of the pleiotropic transcription factor NF-kappa-B, found ubiquitously across
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various cell types. This transcription factor acts as a central mediator in signal transduction pathways associated with diverse biological processes, including inflammation, immunity, differentiation, cell growth, tumorigenesis, and apoptosis. NFKB1 participates in homo- or heterodimeric complexes, with the p65-p50 heterodimer being the most prevalent. These dimers selectively bind to kappa-B sites in target gene DNA, exhibiting distinct preferences and affinities. NF-kappa-B regulation involves intricate post-translational modifications, subcellular compartmentalization, and interactions with cofactors or corepressors. In an inactive state, NF-kappa-B complexes associate with NF-kappa-B inhibitor (I-kappa-B) family members in the cytoplasm. Activation ensues through phosphorylation and degradation of I-kappa-B, liberating active NF-kappa-B complexes for nuclear translocation. NFKB1 exhibits dual functions, contributing to cytoplasmic retention of NF-kappa-B proteins and generating the active p50 subunit through cotranslational processing. This processing, mediated by the proteasome, ensures the independent functionality of p50 and p105. The p50 subunit binds to kappa-B consensus sequences in the enhancer regions of genes involved in immune response and acute phase reactions. Additionally, NFKB1, in association with MAP3K8, represses MAP3K8-induced MAPK signaling, with active MAP3K8 released through proteasome-dependent degradation of NFKB1/p105.

Caution: Product has not been fully validated for medical applications. For research use only.

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