

# Recombinant Human NFkB2 Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP50718

Size: 10ug, 100ug

Protein Name: Nuclear factor NF-kappa-B p100 subunit (DNA-binding factor KBF2) (H2TF1) (Lymphocyte translocation chromosome 10 protein) (Nuclear factor of kappa light polypeptide gene enhancer in B-cells 2) (Oncogene Lym-10) (Lym10) [Cleaved into: Nuclear factor NF-kappa-B p52 subunit]

Synonym: NFkB2, LYT10

UniProt ID: Q00653

UniProt Link: [www.uniprot.org/uniprotkb/Q00653/entry](http://www.uniprot.org/uniprotkb/Q00653/entry)

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 900 AA

Molecular Weight: 97 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MESCYNPGLDGIIEYDDFKLNSSIVEPKPAPETADGPYLVIVEQPKQGRGFRFRYGCCEGPSHGGLPG  
ASSEKGRKTYPTVKICNYEGPAKIEVDLVTHSDPPRAHAHSLVGKQCSELGICAVSVGPKDMTAQFN  
NLGVLHVTKKNMMGMTMIQKLQRQLRSRPQGLTEAEQRELEQEAKELKKVMDLSIVRLRFS AFLRA  
SDGSFSLPLKPVISQPIHDSKSPGASNLKISRMDKTAGSVRGGDEVYLLCDKVQKDDIEVRFYEDDE  
NGWQAFGDFSPDTHKQYAIVFRTPPYHKMKIERPVTVFLQLKRKRGGDVSDSKQFTYYPLVEDKE  
EVQRKRKRALPTFSQPFGGGSHMGGGSGGAAGGYGGAGGGGSLGFFPSSLAYSPLYQSGAGPMG  
CYPGGGGGAQMAATVPSRDSGEEAAEPSAPSRTQPCEPQAPPEMLQRAREYNARLFGLAQRSARA  
LLDYGVTADARALLAGQRHLLTAQDENGDTPLHLAIIHGQTSVIEQIVYVIHHAQDLGVVNLTNHLHQT  
PLHLAVITGQTSVVSFLLRVGADPALDRHGDSAMHLALRAGAGAPPELLRALLQSGAPAVPQLLHMP  
DFEGLYPVHLAVRARSPECLDLLVDSGAEVEATERQGGRTALHLATEMEELGLVTHLVTKLRANVNA  
RTFAGNTPLHLAAGLGYP TLRLLKAGADIHAENEEPLCPLPSPPTSDSDSDSEGPEKDTRSSFRG  
HTPLDLTCSTKVKTLLLNAQNTMEPPLTPSPAGPGLSLGDTALQNLEQLLDGPEAQQGSWAELAER  
LGLRSLVD TYRQTSPSGSLLRSYELAGGDLAGLLEALSDMGLEEGVRLLRGPETRDKLPSTAEVKE  
DSAYGSQSVEQEAEKLGPPPEPPGGLCHGHPQPQVH



### 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 NF-kappa-B p100 subunit (DNA-binding factor KBF2) (H2TF1) (Lymphocyte translocation chromosome 10 protein) (Nuclear factor of kappa light polypeptide gene enhancer in B-cells 2) (Oncogene Lym-10) (Lyt10) [Cleaved into: Nuclear factor NF-kappa-B p52 subunit] 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:** 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. 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. In a non-canonical activation pathway, the MAP3K14-activated CHUK/IKKA homodimer phosphorylates NFKB2/p100 associated with RelB, inducing its proteolytic processing to NFKB2/p52 and the formation of NF-kappa-B RelB-p52 complexes. The NF-kappa-B heterodimeric RelB-p52 complex is a transcriptional activator. The NF-kappa-B p52-p52 homodimer is a transcriptional repressor. NFKB2 appears to have dual functions such as cytoplasmic retention of attached NF-kappa-B proteins by p100 and generation of p52 by a cotranslational processing. The proteasome-mediated process ensures the production of both p52 and p100 and preserves their independent function. p52 binds to the kappa-B consensus sequence 5'-GGRNYYCC-3', located in the enhancer region of genes involved in immune response and acute phase reactions. p52 and p100 are respectively the minor and major form; the processing of p100 being relatively poor. Isoform p49 is a subunit of the NF-kappa-B protein complex, which stimulates the HIV enhancer in synergy with p65. In concert with RELB, regulates the circadian clock by repressing the transcriptional activator activity of the CLOCK-BMAL1 heterodimer.

**Subcellular Localization:** Nucleus. Cytoplasm. Note=Nuclear, but also found in the cytoplasm in an inactive form complexed to an inhibitor (I-kappa-B).

### 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.