

Recombinant Rat TF65 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52541

Size: 10ug, 100ug

Protein Name: Transcription factor p65 (Nuclear factor NF-kappa-B p65 subunit)

Synonym: Rela, nos2

UniProt ID: Q7TQN4

UniProt Link: www.uniprot.org/uniprotkb/Q7TQN4/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 550 AA

Molecular Weight: 60 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MDDLFLIFPSEPAQASGPYVEIIEQPKQRMFRYKCEGRSAGSIPGERSTDTTKTHPTIKINGYTG
PGTVRISLVTKDPPHRPHPHLVGKDCRDGFYEAELCPDRCIHSFQNLGIQCVKKRDLEQAISQRIQT
NNNPFQVPIEEQRGDYDLNAVRLCFQVTVRDPGRPLRLTPVLSHPIDNRPNTAELKICRVNRNS
GSCGGDEIFLLCDKVQKEDIEVYFTGPGWEARGSFQADVHRQVAIVFRTPPYADPSLQAPVRVS
MQLRRPSDRELSEPMEFQYLPDTPDRHRIEEKRKRTYETFKSIMKKSPFNGPTEPRPPRRRIAVPSR
GPTSVPKPAPQPYAFSTSLSTINFDEFSPMVLPPGQISNQALALAPSSAPVLAQTMVPSSAMVPSLA
QPPAPVPVLAPGPPQSLAPVPKSTQAGEGTLSEALLHLQFDADEDLGALLGNNTDPGVFTDLASV
DNSEFQQLLNQGVAMSHSTAEPMLMEYPEAITRLVTGSQRPPDPAPATLGTSGLPNGLSGDEDFSS
IADMDFSALLSQISS

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 Transcription factor p65 (Nuclear factor NF-kappa-B p65 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 heterodimeric RELA-NFKB1 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. The NF-kappa-B heterodimeric RELA-NFKB1 and RELA-REL complexes, for instance, function as transcriptional activators. 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. The inhibitory effect of I-kappa-B on NF-kappa-B through retention in the cytoplasm is exerted primarily through the interaction with RELA. RELA shows a weak DNA-binding site which could contribute directly to DNA binding in the NF-kappa-B complex. Besides its activity as a direct transcriptional activator, it is also able to modulate promoters accessibility to transcription factors and thereby indirectly regulate gene expression. Associates with chromatin at the NF-kappa-B promoter region via association with DDX1. Essential for cytokine gene expression in T-cells. The NF-kappa-B homodimeric RELA-RELA complex appears to be involved in invasion-mediated activation of IL-8 expression. Key transcription factor regulating the IFN response during SARS-CoV-2 infection.

Subcellular Localization: Nucleus . Cytoplasm . Note=Nuclear, but also found in the cytoplasm in an inactive form complexed to an inhibitor (I-kappa-B). Colocalized with DDX1 in the nucleus upon TNF induction. Colocalizes with GFI1 in the nucleus after LPS stimulation. Translocation to the nucleus is impaired in L.monocytogenes infection.

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.