

Recombinant NFκB p65 protein

Catalog No: 31102, 31302

Expressed In: *E. coli*

Quantity: 5, 15 µg

Concentration: 0.1 µg/µl

Source: Human

Buffer Contents: 5 µg of Recombinant NFκB p65 protein 1X Protein Dilution Buffer (20 mM Tris-HCl, 0.2 M NaCl, 2 mM MgCl₂ and 10% glycerol) and 1 M DTT. Protein is supplied at 100 ng/µl in Protein Dilution Buffer.

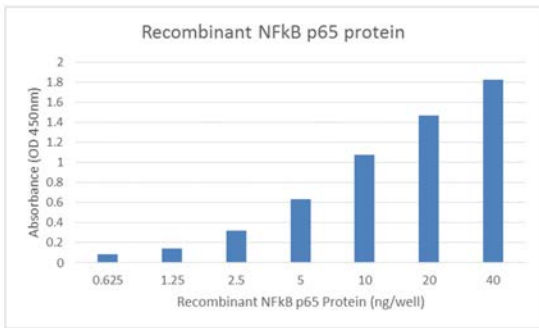
Background: NFκB p65 is a subunit of the NFκB transcription factor complex that plays a significant role in the regulation of genes that control various biological processes, including inflammation, differentiation, tumorigenesis, and cell growth and survival. NFκB is comprised of homo- or heterodimers of different subunits of the structurally related Rel family of transcription factors that includes p50 (NF-κB1), p52 (NF-κB2), p65 (RelA), RelB and c-Rel. NFκB p65, RelB and c-Rel contain a transactivation domain (TD) in their C-termini, which is required for the transport of active NFκB complexes into the nucleus. In contrast, subunits p50 and p52 do not contain transactivation domains; they are unable to transactivate on their own and must form heterodimers with p65, RelB or c-Rel. The p50/p65 heterodimers and the p50 homodimers are the most common dimers found in the NFκB signaling pathway. Inactive NFκB dimers are sequestered in the cytoplasm of cells by the IκB family of inhibitory proteins. Activation of NFκB by external inducers such as lipopolysaccharide, TNF or IL-1, results in the phosphorylation and degradation of the IκB proteins. This releases NFκB dimers, which subsequently translocate to the nucleus where they activate appropriate target genes.

Protein Details: Recombinant NFκB p65 protein was expressed from a full-length cDNA clone in *E. coli* and has a 14 amino acid truncation at the C-term. This clone had five point mutations compared to the p65 sequence listed under accession no. AAA36408: L159V, P180S, F309S, A439V and V462M. The protein was purified by affinity chromatography, followed by gel filtration.

Application Notes: Recombinant NFκB p65 is suitable for Western blotting and TransAM® assays. 100 ng is sufficient for most protein-protein interaction studies. The standard curve for TransAM NFκB p65 was generated using the range of 40-0.625 ng of protein. NOTE: The presence of Poly [d(I-C)] in buffers may affect protein functionality and should be avoided. For larger package sizes of Recombinant NFκB p65, please refer to Cat. No. 81086 / 81786.

References: Chung, P.Y., *et al.* (2018). "Targeting DNA Binding for NF-κB as an Anticancer Approach in Hepatocellular Carcinoma." *Cells*. 7(10): 177. PMID: 31360426.
Sheppard, P.W., *et al.* (2011). "Quantitative characterization and analysis of the dynamic NF-κB response in microglia." *BMC Bioinformatics*. July 5; 12:276. PMID: 21729324.
Kastrati, I., *et al.* (2016). "Dimethyl Fumarate Inhibits the Nuclear Factor κB Pathway in Breast Cancer Cells by Covalent Modification of p65 Protein." *J. Biol. Chem.* 291(7):3639-47. PMID: 26683377.
Morgado, M., *et al.* (2016). "Tumor necrosis factor-α and interferon-γ stimulate MUC16 (CA125) expression in breast, endometrial and ovarian cancers through NFκB." *Oncotarget*. 7(12):14871-84. PMID: 26918940.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt. This product is for research use only and is not for use in diagnostic procedures.



TransAM® standard curve generated using Recombinant NFκB p65 protein.

The standard curve for TransAM® was generated using a range of 40 - 0.625 ng of protein and run on the TransAM® NFκB p65 ELISA Kit.