

Rabbit NF kappaB p65 Polyclonal Antibody | anti-RELA antibody

Phospho-NF kappaB p65 (Ser468) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321688	Rabbit	Human, Mouse, Rat	ELISA, Immunoprecipitation, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

NF kappaB p65; Polyclonal Antibody; Phospho-NF kappaB p65 (Ser468) Antibody; Avian reticuloendotheliosis viral (v rel) oncogene homolog A; MGC131774; NF kappa B p65delta3; NFKB3; Nuclear Factor NF Kappa B p65 Subunit; Nuclear factor NF-kappa-B p65 subunit; Nuclear factor of kappa light polypeptide gene enhancer in B cells 3; Nuclear factor of kappa light polypeptide gene enhancer in B-cells 3; OTTHUMP00000233473; OTTHUMP00000233474; OTTHUMP00000233475; OTTHUMP00000233476; OTTHUMP00000233900; p65; p65 NF kappaB; p65 NFkB; relA; TF65_HUMAN; Transcription factor p65; v rel avian reticuloendotheliosis viral oncogene homolog A (nuclear factor of kappa light polypeptide gene enhancer in B cells 3 (p65)); V rel avian reticuloendotheliosis viral oncogene homolog A; v rel reticuloendotheliosis viral oncogene homolog A (avian); V rel reticuloendotheliosis viral oncogene homolog A; nuclear factor of kappa light polypeptide gene enhancer in B cells 3; anti-RELA antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-NF-kappaB p65 (Ser468) antibody detects endogenous levels of NF-kappaB p65 only when phosphorylated at Serine 468
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho-and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	548
Applicable Applications for anti-RELA antibody	ELISA, IP (Immunoprecipitation), ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human NF-kappaB p65 around the phosphorylation site of Serine 468
Subcellular Location	Nucleus. Cytoplasm. Nuclear, but also found in the cytoplasm in an inactive form complexed to an inhibitor (I-kappa-B). Colocalized with RELA in the nucleus upon TNF-alpha induction.
Conjugation	Unconjugated
Epitope	Phospho Ser468
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IF (Immunofluorescence)

AAA321688 staining HeLa by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of NF kappaB p65 phosphorylation expression in MOLT whole cell lysates, The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA321688 at 1/100 staining human lung carcinoma tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

Related Product Information for anti-RELA antibody

Description: NFKB1 (MIM 164011) or NFKB2 (MIM 164012) is bound to REL (MIM 164910), RELA, or RELB (MIM 604758) to form the NFKB complex. The p50 (NFKB1)/p65 (RELA) heterodimer is the most abundant form of NFKB. The NFKB complex is inhibited by I-kappa-B proteins (NFKBIA, MIM 164008 or NFKBIB, MIM 604495), which inactivate NFKB by trapping it in the cytoplasm.

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 and the heterodimeric p65-p50 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. 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. NF-kappa-B heterodimeric p65-p50 and p65-c-Rel complexes are transcriptional activators. The NF-kappa-B p65-p65 complex appears to be involved in invasion-mediated activation of IL-8 expression. The inhibitory effect of I-kappa-B upon NF-kappa-B 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. Associates with chromatin at the NF-kappa-B promoter region via association with DDX1. Essential for cytokine gene expression in T-cells (PubMed:15790681).

Subunit Structure: Component of the NF-kappa-B p65-p50 complex. Component of the NF-kappa-B p65-c-Rel complex. Homodimer; component of the NF-kappa-B p65-p65 complex. Component of the NF-kappa-B p65-p52 complex. May interact with ETHE1. Binds AES and TLE1. Interacts with TP53BP2. Binds to and is phosphorylated by the activated form of either RPS6KA4 or RPS6KA5. Interacts with ING4 and this interaction may be indirect. Interacts with CARM1, USP48 and UNC5CL. Interacts with IRAK1BP1 (By similarity). Interacts with NFKBID (By similarity). Interacts with NFKBIA. Interacts with GSK3B. Interacts with NFKBIB (By similarity). Interacts with NFKBIE. Interacts with NFKBIZ. Interacts with EHMT1 (via ANK repeats) (By similarity). Part of a 70-90 kDa complex at least consisting of CHUK, IKBKB, NFKBIA, RELA, ELP1 and MAP3K14. Interacts with HDAC3; HDAC3 mediates the deacetylation of RELA. Interacts with HDAC1; the interaction requires non-phosphorylated RELA. Interacts with CBP; the interaction requires phosphorylated RELA. Interacts (phosphorylated at 'Thr-254') with PIN1; the interaction inhibits p65 binding to NFKBIA. Interacts with SOCS1. Interacts with UXT. Interacts with MTDH and PHF11. Interacts with ARRB2. Interacts with human respiratory syncytial virus (HRSV) protein M2-1. Interacts with NFKBIA (when phosphorylated), the interaction is direct; phosphorylated NFKBIA is part of a SCF(BTRC)-like complex lacking CUL1. Interacts with RNF25. Interacts (via C-terminus) with DDX1. Interacts with UFL1 and COMMD1. Interacts with BRMS1; this promotes deacetylation of 'Lys-310'. Interacts with NOTCH2 (By similarity). Directly interacts with MEN1; this interaction represses NFKB-mediated transactivation. Interacts with AKIP1, which promotes the phosphorylation and nuclear retention of RELA. Interacts (via the RHD) with GFI1; the interaction, after bacterial lipopolysaccharide (LPS) stimulation, inhibits the transcriptional activity by interfering with the DNA-binding activity to target gene promoter DNA. Interacts (when acetylated at Lys-310) with BRD4; leading to activation of the NF-kappa-B pathway. Interacts with MEFV. Interacts with CLOCK (By similarity). Interacts (via N-terminus) with CPEN1; this interaction induces proteolytic cleavage of p65/RELA subunit and inhibition of NF-kappa-B transcriptional activity (PubMed:18212740). Interacts with FOXP3. Interacts with CDK5RAP3; stimulates the interaction of RELA with HDAC1, HDAC2 and HDAC3 thereby inhibiting NF-kappa-B transcriptional activity (PubMed:17785205). Interacts with DHX9; this interaction is direct and activates NF-kappa-B-mediated transcription (PubMed:15355351). Interacts with LRRC25 (PubMed:29044191). Interacts with TBX21 (By similarity). Interacts with KAT2A (By similarity).

Post-translational Modifications: Ubiquitinated, leading to its proteasomal degradation. Degradation is required for termination of NF-kappa-B response. Monomethylated at Lys-310 by SETD6. Monomethylation at Lys-310 is recognized by the ANK repeats of EHMT1 and promotes the formation of repressed chromatin at target genes, leading to down-regulation of NF-kappa-B transcription factor activity. Phosphorylation at Ser-311 disrupts the interaction with EHMT1 without preventing monomethylation at Lys-310 and relieves the repression of target genes (By similarity). Phosphorylation at Ser-311 disrupts the interaction with EHMT1 and promotes transcription factor activity (By similarity). Phosphorylation on Ser-536 stimulates acetylation on Lys-310 and interaction with CBP; the phosphorylated and acetylated forms show enhanced transcriptional activity. Phosphorylation at Ser-276 by RPS6KA4 and RPS6KA5 promotes its transactivation and transcriptional activities. Reversibly acetylated; the acetylation seems to be mediated by CBP, the deacetylation by HDAC3 and SIRT2. Acetylation at Lys-122 enhances DNA binding and impairs association with NFKBIA. Acetylation at Lys-310 is required for full transcriptional activity in the absence of effects on DNA binding and NFKBIA association. Acetylation at Lys-310 promotes interaction with BRD4. Acetylation can also lower DNA-binding and results in nuclear export. Interaction with BRMS1 promotes deacetylation of Lys-310. Lys-310 is deacetylated by SIRT2. S-nitrosylation of Cys-38 inactivates the enzyme activity. Sulfhydration at Cys-38 mediates the anti-apoptotic activity by promoting the interaction with RPS3 and activating the transcription factor activity. Sumoylation by PIAS3 negatively regulates DNA-bound activated NF-kappa-B. Proteolytically cleaved within a conserved N-terminus region required for base-specific contact with DNA in a CPEN1-mediated manner, and hence inhibits NF-kappa-B transcriptional activity (PubMed:18212740).

Similarity: The 9aaTAD motif is a transactivation domain present in a large number of yeast and animal transcription factors.

NCBI AND UNIPROT INFORMATION

NCBI GI #	223468681
NCBI GeneID	5970
NCBI Accession #	NP_001138610.1
NCBI GenBank Nucleotide #	NM_001145138.1
UniProt Accession #	Q04206; Q6GTV1; Q6SLK1
Molecular Weight	Observed: 65 kDa Predicted: 61 kDa
NCBI Official Full Name	transcription factor p65 isoform 2
NCBI Official Synonym Full Names	RELA proto-oncogene, NF-kB subunit
NCBI Official Symbol	RELA
NCBI Official Synonym Symbols	p65; NFKB3
NCBI Protein Information	transcription factor p65
UniProt Protein Name	Transcription factor p65
UniProt Gene Name	RELA
UniProt Synonym Gene Names	NFKB3

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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