ARG51013
anti-NFkB p65 antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes NFkB p65
Tested Reactivity	Hu, Ms, Rat
Tested Application	IHC-Fr, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	NFkB p65
Species	Human
Immunogen	Peptide sequence around aa.534~538 (F-S-S-I-A) derived from Human NFκB-p65.
Conjugation	Un-conjugated
Alternate Names	Nuclear factor NF-kappa-B p65 subunit; Nuclear factor of kappa light polypeptide gene enhancer in B-cells 3; NFKB3; p65; Transcription factor p65

Application Instructions

Application table

Application	Dilution
IHC-Fr	Assay-dependent
IHC-P	1:50 - 1:100
WB	1:500 - 1:1000

Application Note

* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

Form	Liquid
Purification	Antibodies were produced by immunizing rabbits with KLH-conjugated synthetic peptide. Antibodies were purified by affinity-chromatography using epitope-specific peptide.
Buffer	PBS (without Mg2+ and Ca2+, pH 7.4), 150mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

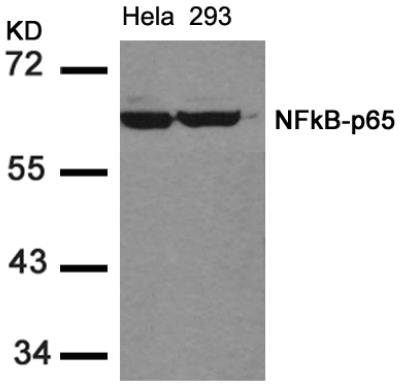
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 19697 Mouse GeneID: 5970 Human Swiss-port # Q04206 Human Swiss-port # Q04207 Mouse
Gene Symbol	RELA
Gene Full Name	v-rel avian reticuloendotheliosis viral oncogene homolog A
Background	NFkB is a ubiquitous transcription factor involved in several biological processes. It is held in the cytoplasm in an inactive state by specific inhibitors. Upon degradation of the inhibitor, NF-kappa-B moves to the nucleus and activates transcription of specific genes. NF-kappa-B is composed of NFKB1 or NFKB2 bound to either REL, RELA, or RELB. The most abundant form of NF-kappa-B is NFKB1 complexed with the product of this gene, RELA. Four transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Sep 2011]
Function	NFkB 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. Beside 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 (PubMed:15790681). The NF-kappa-B homodimeric RELA-RELA complex appears to be involved in invasin-mediated activation of IL-8 expression. [UniProt]
Highlight	Related Antibody Duos and Panels: ARG30248 Phospho NFkB Antibody Duo (Total, pS536) ARG30251 NFkB nuclear translocation Antibody Panel Related products: NFkB p65 antibodies; NFkB p65 Duos / Panels; Anti-Rabbit IgG secondary antibodies; Related news: Exploring Antiviral Immune Response Related poster download: The NF-kappa B Pathways.pdf Toll-like Receptor.pdf
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Cell Death antibody; Gene Regulation antibody; Immune System antibody; Metabolism antibody; Microbiology and Infectious Disease antibody; Neuroscience antibody; Signaling Transduction antibody; NFkB nuclear translocation Study antibody; Inflammation Study antibody
Calculated Mw	60 kDa
PTM	Ubiquitinated, leading to its proteasomal degradation. Degradation is required for termination of NF-kappa-B response.

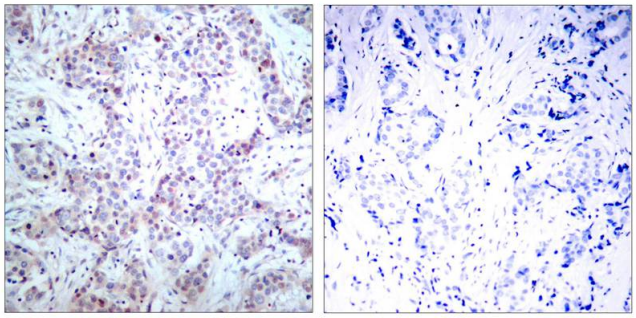
Monomethylated at Lys-310 by SETD6. Monomethylation at Lys-310 is recognized by the ANK repeats of EHMT1 and promotes the formation of repressed chromatin at target genes, leading to down-regulation of NF-kappa-B transcription factor activity. Phosphorylation at Ser-311 disrupts the interaction with 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).

Images



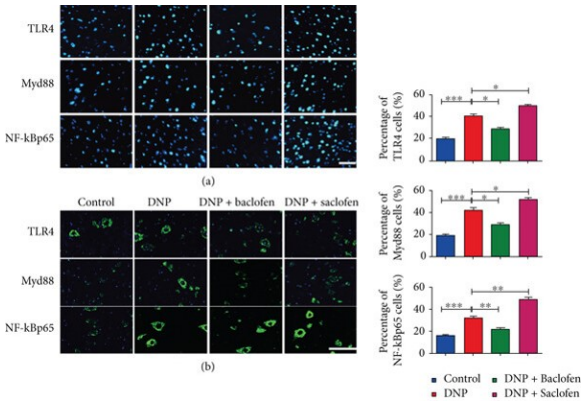
ARG51013 anti-NFkB p65 antibody WB image

Western Blot: extracts from HeLa and 293 cells stained with ARG51013 anti-NFkB p65 antibody .



ARG51013 anti-NFkB p65 antibody IHC-P image

Immunohistochemistry: paraffin-embedded human breast carcinoma tissue stained with ARG51013 anti-NFkB p65 antibody (left) or the same antibody preincubated with blocking peptide (right).



ARG51013 anti-NFkB p65 antibody IHC-Fr image

Immunofluorescence: Rat (L1–5) spinal cord stained with ARG51013 anti-NFkB p65 antibody and ARG54348 anti-MyD88 antibody.

From Peng Liu et al. Mediators of inflammation (2018), doi:.org/10.1155/2018/6016272, Fig. 5.