ARG30248
Phospho NFkB Antibody Duo (Total, pS536)

Package: 1 pair
Store at: -20°C

Component

Cat. No.	Component Name	Host clonality	Reactivity	Application	Package
ARG51013	anti-NFkB p65 antibody	Rabbit pAb	Hu, Ms, Rat	IHC-P, IHC-Fr, WB	50 µl
ARG51518	anti-NFkB p65 phospho (Ser536) antibody	Rabbit pAb	Hu, Ms, Rat	ICC/IF, IHC-P, WB	50 µl

Summary

Product Description

NF-kappa-B 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 REL, RELA, or RELB. The most abundant form of NF-kappa-B is NFKB1 complexed with RELA (p65). Four transcript variants encoding different isoforms have been found for RELA. (provided by RefSeq, Sep 2011)

NFkB (p65) has multiple phosphorylation site with different regulations and functions. Phosphorylation at Serine 536 is mediated by IKK beta and/or IKK alpha in the cytoplasm and it is required for p65 activation. Phosphorylation on Ser276 of p65 in the nucleus enhances its ability to recruit histone acetyltransferases such as cAMP response element-binding (CREB)-binding protein (CBP) and p300 and to displace p50–histone deacetylase (HDAC)-1 complexes from DNA. In addition, IL1 beta and TNF alpha stimulate p65 phosphorylated at Ser529 through CK2 protein.

ARG30029, ARG30030 and ARG30031 NFkB phosphor Duos include antibodies react total p65 protein and p65 phosphorylated at Ser276 or Ser529 or Ser536. It is useful for the user in p65 related functional studies.

Related news:
MyD88 L265P antibody for lymphoma research;

Target Name

NFkB

Alternate Names

Phospho NFkB antibody; Phospho nuclear factor kappa-light-chain-enhancer of activated B cells antibody; NFkB p65 antibody; NFkB p65 phospho (Ser536) antibody

Properties

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 or below. 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.

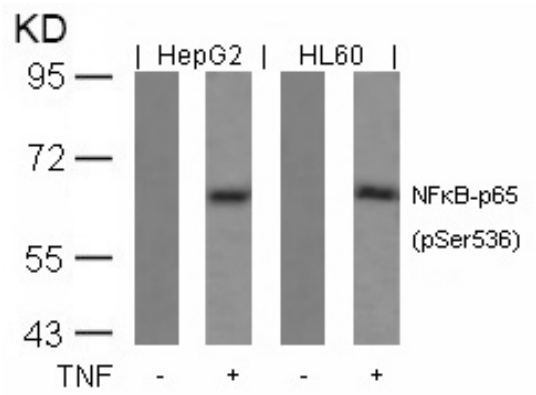
Bioinformation

Gene Symbol

RELA

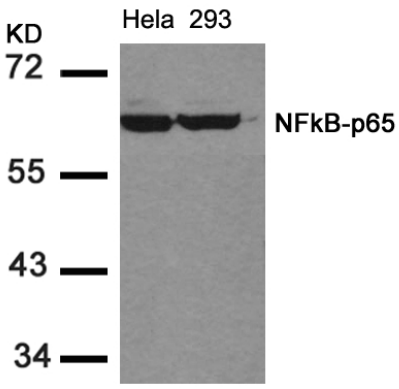
Gene Full Name	Phospho nuclear factor kappa-light-chain-enhancer of activated B cells (NFkB) Antibody Duo
Background	NFkB is a ubiquitous transcription factor involved in several biological processes. It is held in the cytoplasm in an inactive state by specific inhibitors. Upon degradation of the inhibitor, 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 Product: anti-NFkB p65 antibody;
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
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



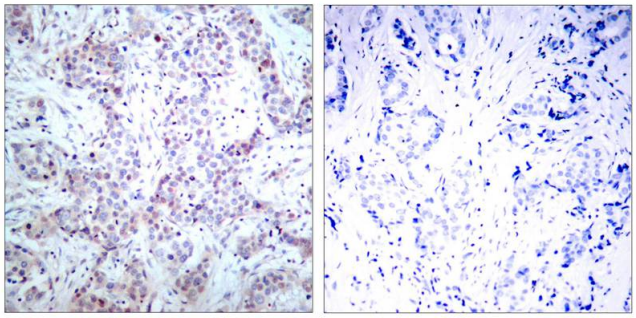
ARG51518 anti-NFkB-p65 phospho (Ser536) antibody WB image

Western Blot: extracts from HepG2 and HL60 cells untreated or treated with TNF stained with anti-NFkB p65 (phospho Ser536) antibody ARG51518.



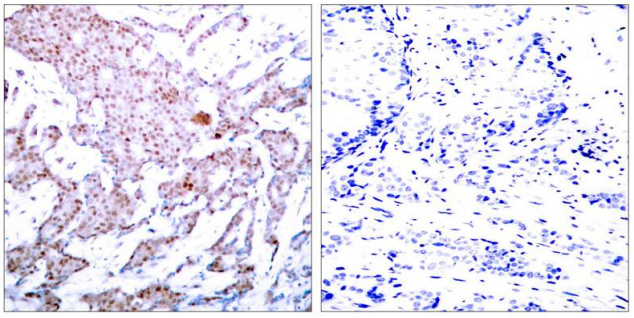
ARG51013 anti-NFkB p65 antibody WB image

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



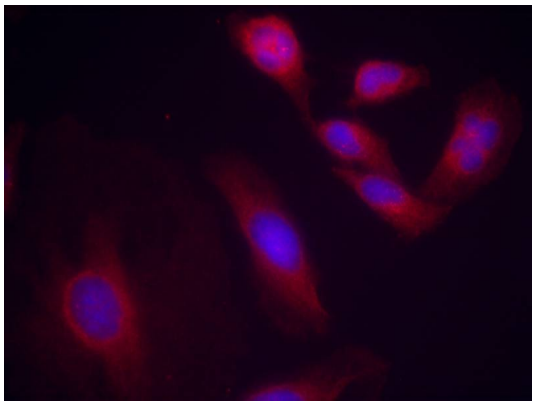
ARG51013 anti-NFkB p65 antibody IHC-P image

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



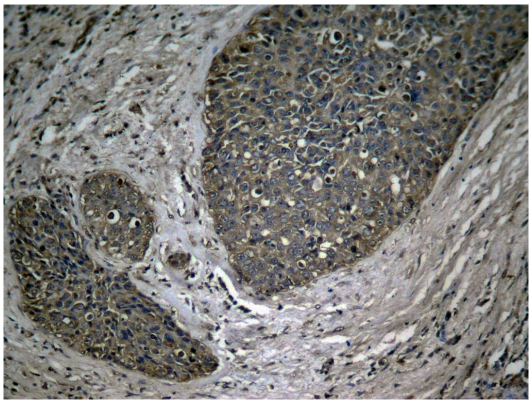
ARG51518 anti-NFkB-p65 phospho (Ser536) antibody IHC-P image

Immunohistochemistry: paraffin-embedded human breast carcinoma tissue stained with anti-NFkB p65 (phospho Ser536) antibody ARG51518 (left) or the same antibody preincubated with blocking peptide (right).



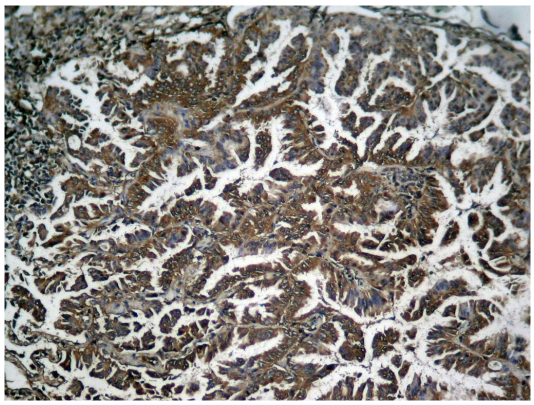
ARG51518 anti-NFkB-p65 phospho (Ser536) antibody ICC/IF image

Immunofluorescence: methanol-fixed HeLa cells stained with anti-NFkB p65 (phospho Ser536) antibody ARG51518.



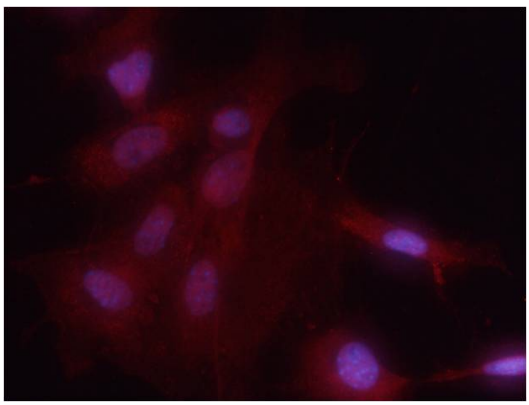
ARG51518 anti-NFkB-p65 phospho (Ser536) antibody IHC-P image

Immunohistochemistry: paraffin-embedded human breast carcinoma tissue stained with anti-NFkB p65 (phospho Ser536) antibody ARG51518.



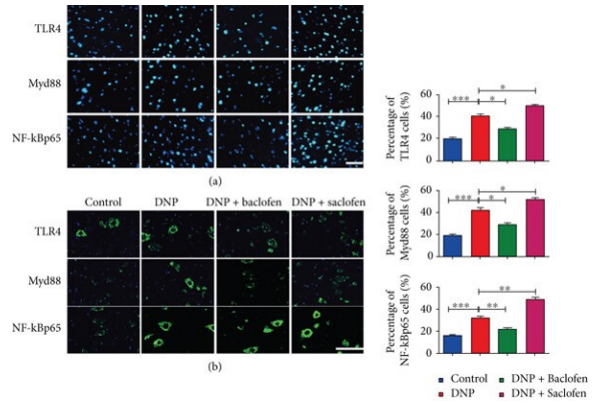
ARG51518 anti-NFkB-p65 phospho (Ser536) antibody IHC-P image

Immunohistochemistry: paraffin-embedded human Lung carcinoma tissue stained with anti-NFkB p65 (phospho Ser536) antibody ARG51518.



ARG51518 anti-NFkB-p65 phospho (Ser536) antibody ICC/IF image

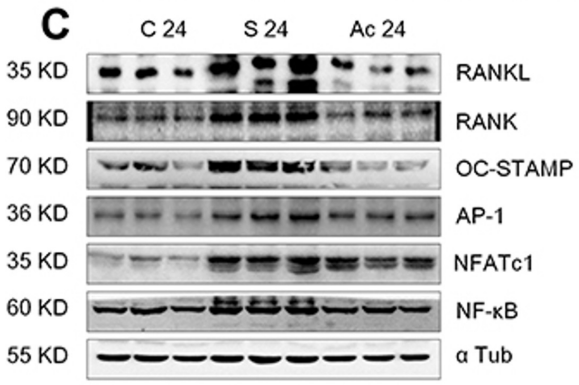
Immunofluorescence: methanol-fixed MEF cells stained with anti-NFkB p65 (phospho Ser536) antibody ARG51518.



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.

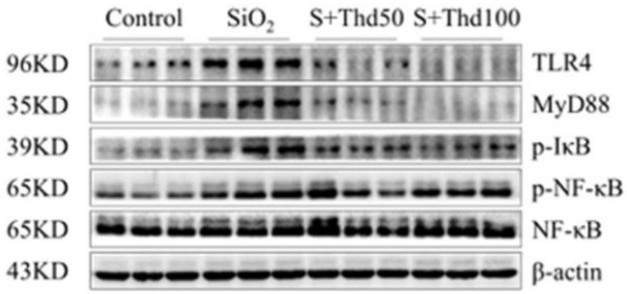
From Peng Liu et al. Mediators of inflammation (2018), doi: .org/10.1155/2018/6016272, Fig. 5.



ARG51013 anti-NFkB p65 antibody WB image

Western blot: Rat lung stained with ARG65852 anti-JunB antibody and ARG51013 anti-NFkB p65 antibody.

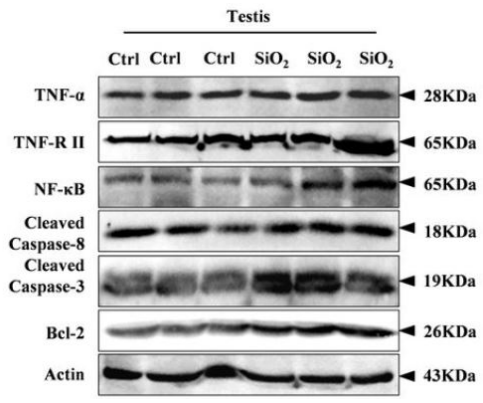
From Jin F et al. J Inflamm Res- (2021), doi: 10.2147/JIR.S306883, Fig. 2. C.



ARG51013 anti-NFkB p65 antibody WB image

Western blot: Mouse lung stained with ARG20515 anti-CD284 / TLR4 antibody , ARG51516 anti-NFkB p65 phospho (Thr435) antibody and ARG51013 anti-NFkB p65 antibody.

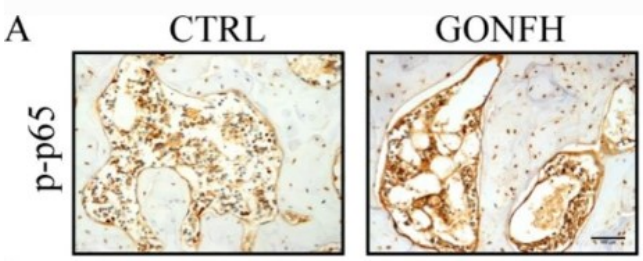
From Li Y et al. International Journal of Molecular Sciences (2022), doi: 10.3390/ijms23105656, Fig. 4B.



ARG51013 anti-NFkB p65 antibody WB image

Western blot: Mouse testis stained with ARG51013 anti-NFkB p65 antibody.

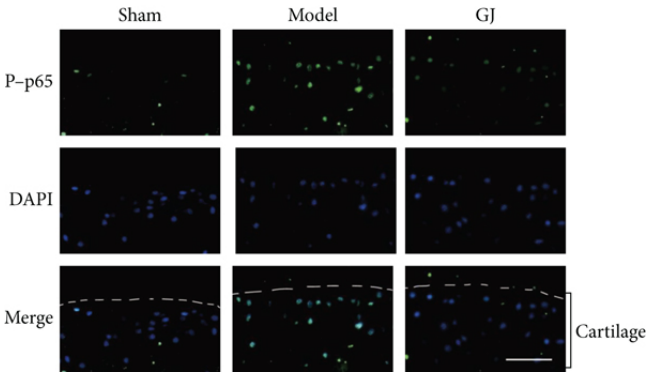
From Sun F et al. Research Square (2022), doi: 10.1007/s11356-021-18215-6, Fig. 10A.



ARG51518 anti-NFkB p65 phospho (Ser536) antibody IHC-P image

Immunohistochemistry: Rat femoral head stained with ARG51518 anti-NFkB p65 phospho (Ser536) antibody at 1:300 dilution.

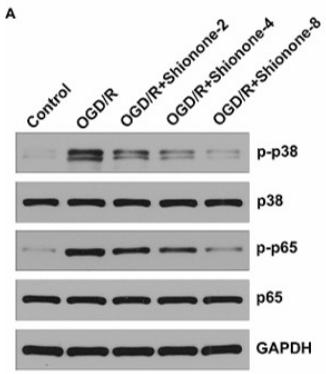
From Huihui Xu et al. Apoptosis. (2023), doi: 10.1007/s10495-023-01860-2, Fig. 6A.



ARG51518 anti-NFkB p65 phospho (Ser536) antibody IHC-P image

Immunohistochemistry: Mouse tibial cartilage stained with ARG51518 anti-NFkB p65 phospho (Ser536) antibody.

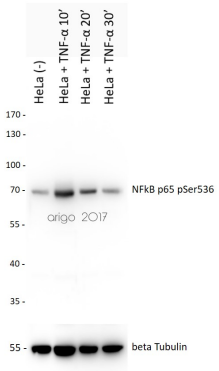
From Congzi Wu et al. Biomed Res Int. (2022), doi: 10.1155/2022/9230784, Fig. 6. c.



ARG51518 anti-NFkB p65 phospho (Ser536) antibody WB image

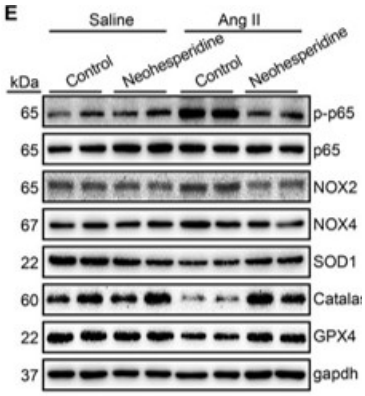
Western blot: SH-SY5Y stained with ARG51850 anti-p38 MAPK phospho (Thr180 / Tyr182) antibody, ARG55258 anti-p38 MAPK antibody, ARG51518 anti-NFkB p65 phospho (Ser536) antibody, and ARG57479 anti-NFkB p65 antibody.

From Zhou X et al. J Cardiothorac Surg (2024), doi: 10.1186/s13019-024-02938-x, Fig. 4. A.



ARG51518 anti-NFkB p65 phospho (Ser536) antibody WB image

Western blot: 20 µg of HeLa cells untreated or treated with TNF-alpha at 10, 20 or 30 min. The blots were stained with ARG51518 anti-NFkB p65 phospho (Ser536) antibody at 1:500 dilution.



ARG51518 anti-NFkB p65 phospho (Ser536) antibody WB image

Western blot: Mouse heart stained with ARG51518 anti-NFkB p65 phospho (Ser536) antibody.

From Zhang J et al. Frontiers in Pharmacology (2022), doi: 10.3389/fphar.2022.890202, Fig. 4. E.