

ARG51630 anti-IKK alpha phospho (Thr23) antibody

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

Summary

Product Description	Rabbit Polyclonal antibody recognizes IKK alpha phospho (Thr23)
Tested Reactivity	Hu, Ms, Rat
Tested Application	IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	IKK alpha
Species	Human
Immunogen	Peptide sequence around phosphorylation site of threonine 23 (L-G-T(p)-G-G) derived from Human IKK α .
Conjugation	Un-conjugated
Alternate Names	Conserved helix-loop-helix ubiquitous kinase; IKK-A; TCF16; IKK1; Inhibitor of nuclear factor kappa-B kinase subunit alpha; I-kappa-B kinase 1; IkappaB kinase; Transcription factor 16; EC 2.7.11.10; Nuclear factor NF-kappa-B inhibitor kinase alpha; Ikbka; IKBKA; IKK-alpha; NFKBIKA; IKKA; TCF-16; I-kappa-B kinase alpha

Application Instructions

Application table	Application	Dilution
	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

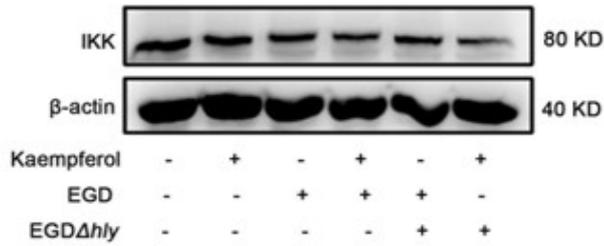
Form	Liquid
Purification	Antibodies were produced by immunizing rabbits with KLH-conjugated synthetic phosphopeptide. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. In addition, non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.
Buffer	PBS (without Mg ²⁺ and Ca ²⁺ , 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

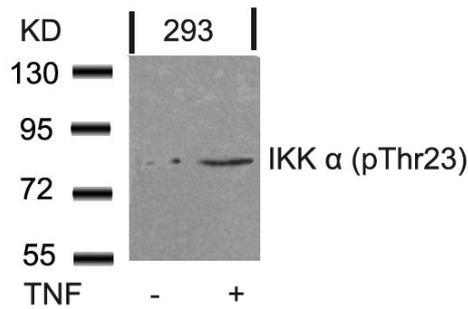
Database links	GeneID: 1147 Human Swiss-port # O15111 Human
Gene Symbol	CHUK
Gene Full Name	conserved helix-loop-helix ubiquitous kinase
Background	Acts as part of the IKK complex in the conventional pathway of NF-kappa-B activation and phosphorylates inhibitors of NF-kappa-B thus leading to the dissociation of the inhibitor/NF-kappa-B complex and ultimately the degradation of the inhibitor. As part of the non-canonical pathway of NF-kappa-B activation, the MAP3K14-activated CHUK/IKKA homodimer phosphorylates NFKB2/p100 associated with RelB, inducing its proteolytic processing to NFKB2/p52 and the formation of NF-kappa-B RelB-p52 complexes. Also phosphorylates NCOA3. Phosphorylates 'Ser-10' of histone H3 at NF-kappa-B-regulated promoters during inflammatory responses triggered by cytokines.
Function	Serine kinase that plays an essential role in the NF-kappa-B signaling pathway which is activated by multiple stimuli such as inflammatory cytokines, bacterial or viral products, DNA damages or other cellular stresses. Acts as part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation and phosphorylates inhibitors of NF-kappa-B on serine residues. These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome. In turn, free NF-kappa-B is translocated into the nucleus and activates the transcription of hundreds of genes involved in immune response, growth control, or protection against apoptosis. Negatively regulates the pathway by phosphorylating the scaffold protein TAXBP1 and thus promoting the assembly of the A20/TNFAIP3 ubiquitin-editing complex (composed of A20/TNFAIP3, TAX1BP1, and the E3 ligases ITCH and RNF11). Therefore, CHUK plays a key role in the negative feedback of NF-kappa-B canonical signaling to limit inflammatory gene activation. As part of the non-canonical pathway of NF-kappa-B activation, the MAP3K14-activated CHUK/IKKA homodimer phosphorylates NFKB2/p100 associated with RelB, inducing its proteolytic processing to NFKB2/p52 and the formation of NF-kappa-B RelB-p52 complexes. In turn, these complexes regulate genes encoding molecules involved in B-cell survival and lymphoid organogenesis. Participates also in the negative feedback of the non-canonical NF-kappa-B signaling pathway by phosphorylating and destabilizing MAP3K14/NIK. Within the nucleus, phosphorylates CREBBP and consequently increases both its transcriptional and histone acetyltransferase activities. Modulates chromatin accessibility at NF-kappa-B-responsive promoters by phosphorylating histones H3 at 'Ser-10' that are subsequently acetylated at 'Lys-14' by CREBBP. Additionally, phosphorylates the CREBBP-interacting protein NCOA3. [UniProt]
Research Area	Cell Biology and Cellular Response antibody; Gene Regulation antibody; Immune System antibody; Signaling Transduction antibody; IκB alpha degradation Study antibody
Calculated Mw	85 kDa
PTM	Phosphorylated by MAP3K14/NIK, AKT and to a lesser extent by MEKK1, and dephosphorylated by PP2A. Autophosphorylated. (Microbial infection) Acetylation of Thr-179 by Yersinia yopJ prevents phosphorylation and activation, thus blocking the I-kappa-B signaling pathway.



ARG51630 anti-IKK alpha phospho (Thr23) antibody WB image

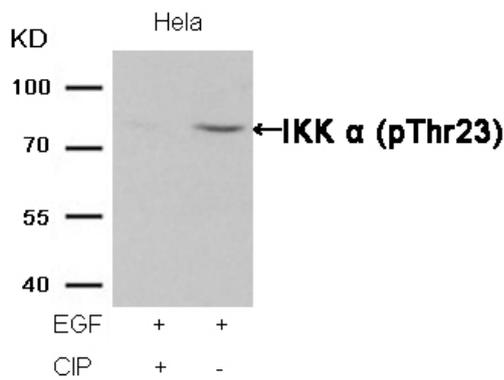
Western blot: Mouse peritoneal macrophages stained with ARG51630 anti-IKK alpha phospho (Thr23) antibody at dilution.

From Tingting Wang et al. Microbiol Spectr. (2022), [doi: 10.1128/spectrum.01810-22](https://doi.org/10.1128/spectrum.01810-22), Fig. 3A.



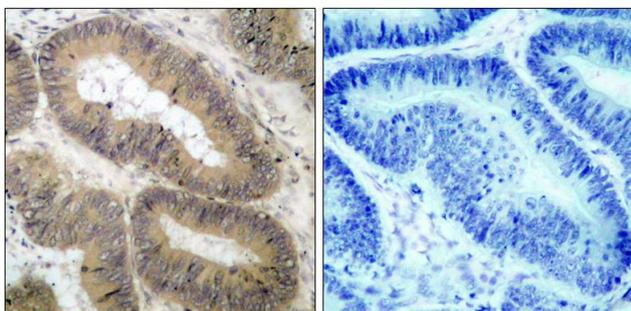
ARG51630 anti-IKK alpha phospho (Thr23) antibody WB image

Western blot: Extracts from 293 cells untreated or treated with TNF stained with ARG51630 anti-IKK alpha phospho (Thr23) antibody.



ARG51630 anti-IKK alpha phospho (Thr23) antibody WB image

Western blot: Extracts from HeLa cells, treated with EGF or calf intestinal phosphatase (CIP), stained with ARG51630 anti-IKK alpha phospho (Thr23) antibody.



ARG51630 anti-IKK alpha phospho (Thr23) antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human colon carcinoma tissue stained with ARG51630 anti-IKK alpha phospho (Thr23) antibody (left) or the same antibody preincubated with blocking peptide (right).