

IKK alpha Antibody
Rabbit mAb
Catalog # AP90736**Specification**

IKK alpha Antibody - Product Information

Application	WB, IHC, FC, ICC, IP
Primary Accession	O15111
Reactivity	Rat
Clonality	Monoclonal

Other Names

CHUK; I-kappa-B kinase 1; I-kappa-B kinase alpha; I-kappa-B kinase-alpha; IkappaB kinase; Ikb kinase alpha subunit; IkbKA; IKK-A; IKK-a kinase; IKK-alpha; IKK1; IKKA;

Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	84640 Da

IKK alpha Antibody - Additional Information

Dilution	WB~~1:1000 IHC~~1:100~500 FC~~1:10~50 ICC~~N/A IP~~N/A
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human IKK alpha
Description	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. Activation of IKK depends upon phosphorylation at Ser177 and Ser181 in the activation loop of IKK β (Ser176 and Ser180 in IKK α), which causes conformational changes, resulting in kinase activation.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

IKK alpha Antibody - Protein Information

Name CHUK

Synonyms IKKA, TCF16

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 (PubMed: [18626576](http://www.uniprot.org/citations/18626576), PubMed: [9244310](http://www.uniprot.org/citations/9244310), PubMed: [9252186](http://www.uniprot.org/citations/9252186), PubMed: [9346484](http://www.uniprot.org/citations/9346484), PubMed: [9346484](http://www.uniprot.org/citations/9346484)). Acts as a 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 (PubMed: [18626576](http://www.uniprot.org/citations/18626576), PubMed: [35952808](http://www.uniprot.org/citations/35952808), PubMed: [9244310](http://www.uniprot.org/citations/9244310), PubMed: [9252186](http://www.uniprot.org/citations/9252186), PubMed: [9346484](http://www.uniprot.org/citations/9346484)). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed: [18626576](http://www.uniprot.org/citations/18626576), PubMed: [9244310](http://www.uniprot.org/citations/9244310), PubMed: [9252186](http://www.uniprot.org/citations/9252186), PubMed: [9346484](http://www.uniprot.org/citations/9346484), PubMed: [9346484](http://www.uniprot.org/citations/9346484)). 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 (PubMed: [18626576](http://www.uniprot.org/citations/18626576), PubMed: [9244310](http://www.uniprot.org/citations/9244310), PubMed: [9252186](http://www.uniprot.org/citations/9252186), PubMed: [9346484](http://www.uniprot.org/citations/9346484), PubMed: [9346484](http://www.uniprot.org/citations/9346484)). 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) (PubMed: [21765415](http://www.uniprot.org/citations/21765415)). 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 (PubMed: [20501937](http://www.uniprot.org/citations/20501937), PubMed: [20501937](http://www.uniprot.org/citations/20501937)). In turn, these complexes regulate genes encoding molecules involved in B-cell survival and lymphoid organogenesis. Also participates 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 (PubMed: [17434128](http://www.uniprot.org/citations/17434128), PubMed: [17434128](http://www.uniprot.org/citations/17434128)). 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 (PubMed: [12789342](http://www.uniprot.org/citations/12789342), PubMed: [12789342](http://www.uniprot.org/citations/12789342)). Additionally, phosphorylates the CREBBP-interacting protein NCOA3. Also phosphorylates FOXO3 and may regulate this pro-apoptotic transcription factor (PubMed: [15084260](http://www.uniprot.org/citations/15084260), PubMed: [15084260](http://www.uniprot.org/citations/15084260)). Phosphorylates RIPK1 at 'Ser-25' which represses its kinase activity and consequently prevents TNF-mediated RIPK1-dependent cell death (By similarity). Phosphorylates AMBRA1 following mitophagy induction, promoting AMBRA1 interaction with ATG8 family proteins and its mitophagic activity (PubMed: [30217973](http://www.uniprot.org/citations/30217973), PubMed: [30217973](http://www.uniprot.org/citations/30217973)).

Cellular Location

Cytoplasm. Nucleus Note=Shuttles between the cytoplasm and the nucleus

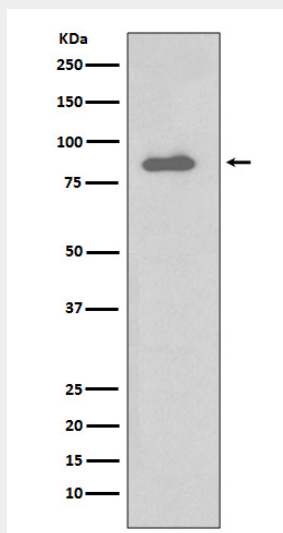
Tissue Location

Widely expressed.

IKK alpha Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

IKK alpha Antibody - Images

Western blot analysis of IKK alpha expression in Daudi cell lysate.