

IKK alpha Rabbit mAb

Catalog # AP75606

Product Information

Application	WB
Primary Accession	O15111
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	84640

Additional Information

Gene ID	1147
Other Names	CHUK
Dilution	WB~~1/500-1/1000
Format	Liquid

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](#), PubMed:[9244310](#), PubMed:[9252186](#), PubMed:[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](#), PubMed:[35952808](#), PubMed:[9244310](#), PubMed:[9252186](#), PubMed:[9346484](#)). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed:[18626576](#), PubMed:[9244310](#), PubMed:[9252186](#), PubMed:[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](#), PubMed:[9244310](#), PubMed:[9252186](#), PubMed:[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](#)). 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](#)). 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](#)). 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](#)). Additionally, phosphorylates the CREBBP-interacting protein NCOA3. Also phosphorylates FOXO3 and may regulate this pro-apoptotic transcription factor (PubMed:[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](#)).

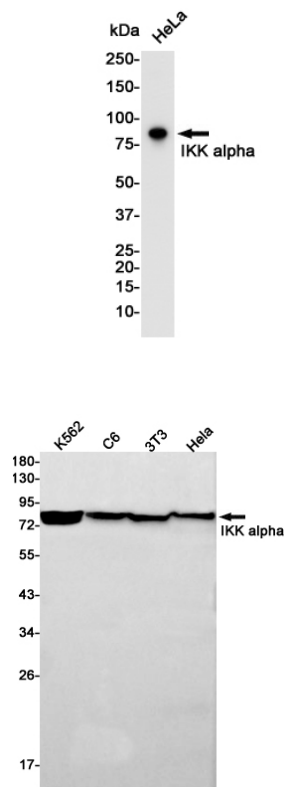
Cellular Location

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

Tissue Location

Widely expressed.

Images



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