

# Phospho-CHUK(T23) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP3374a

## Product Information

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<b>Application</b>	DB, E
<b>Primary Accession</b>	<a href="#">Q15111</a>
<b>Other Accession</b>	<a href="#">Q60680</a> , <a href="#">Q95KV1</a>
<b>Reactivity</b>	Human
<b>Predicted</b>	Bovine, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB10949
<b>Calculated MW</b>	84640

## Additional Information

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<b>Gene ID</b>	1147
<b>Other Names</b>	Inhibitor of nuclear factor kappa-B kinase subunit alpha, I-kappa-B kinase alpha, IKK-A, IKK-alpha, IkbKA, IkappaB kinase, Conserved helix-loop-helix ubiquitous kinase, I-kappa-B kinase 1, IKK1, Nuclear factor NF-kappa-B inhibitor kinase alpha, NFKBIA, Transcription factor 16, TCF-16, CHUK, IKKA, TCF16
<b>Target/Specificity</b>	This CHUK Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding T23 of human CHUK.
<b>Dilution</b>	DB~~1:500 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	Phospho-CHUK(T23) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	CHUK
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**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.

**Background**

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CHUK is a member of the serine/threonine protein kinase family. The encoded protein, a component of a cytokine-activated protein complex that is an inhibitor of the essential transcription factor NF-kappa-B complex, phosphorylates sites that trigger the degradation of the inhibitor via the ubiquitination pathway, thereby activating the transcription factor.

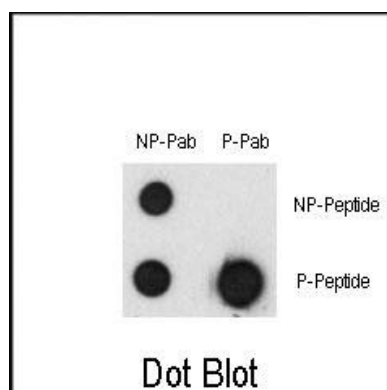
**References**

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Park, K.J., et al., Mol. Cell 18(1):71-82 (2005). Qing, G., et al., J. Biol. Chem. 280(11):9765-9768 (2005). Xiao, G., et al., J. Biol. Chem. 279(29):30099-30105 (2004). Gu, L., et al., J. Biol. Chem. 279(50):52141-52149 (2004). Buss, H., et al., J. Biol. Chem. 279(53):55633-55643 (2004).

## Images

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Dot blot analysis of Phospho-CHUK-T23 Antibody (Cat. #AP3374a) and CHUK Non Phospho-specific Pab on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

## Citations

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- [Synthetic curcumin analog UBS109 inhibits the growth of head and neck squamous cell carcinoma xenografts.](#)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.