

Anti-IKK Alpha Picoband Antibody
Catalog # ABO11816**Specification**

Anti-IKK Alpha Picoband Antibody - Product Information

Application	WB, IHC
Primary Accession	O15111
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Inhibitor of nuclear factor kappa-B kinase subunit alpha(CHUK) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-IKK Alpha Picoband Antibody - Additional Information

Gene ID 1147

Other Names

Inhibitor of nuclear factor kappa-B kinase subunit alpha, I-kappa-B kinase alpha, IKK-A, IKK-alpha, IkbKA, IkappaB kinase, 2.7.11.10, Conserved helix-loop-helix ubiquitous kinase, I-kappa-B kinase 1, IKK1, Nuclear factor NF-kappa-B inhibitor kinase alpha, NFKBIKA, Transcription factor 16, TCF-16, CHUK, IKKA, TCF16

Calculated MW

84640 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

Subcellular Localization

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

Tissue Specificity

Widely expressed.

Protein Name

Inhibitor of nuclear factor kappa-B kinase subunit alpha

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg NaN₃.

Immunogen

E.coli-derived human IKK alpha recombinant protein (Position: V411-E745). Human IKK alpha

shares 98% amino acid (aa) sequence identity with mouse IKK alpha.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. I-kappa-B kinase subfamily.

Anti-IKK Alpha Picoband 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)). 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)). 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)). 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 NF κ B2/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. 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 (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

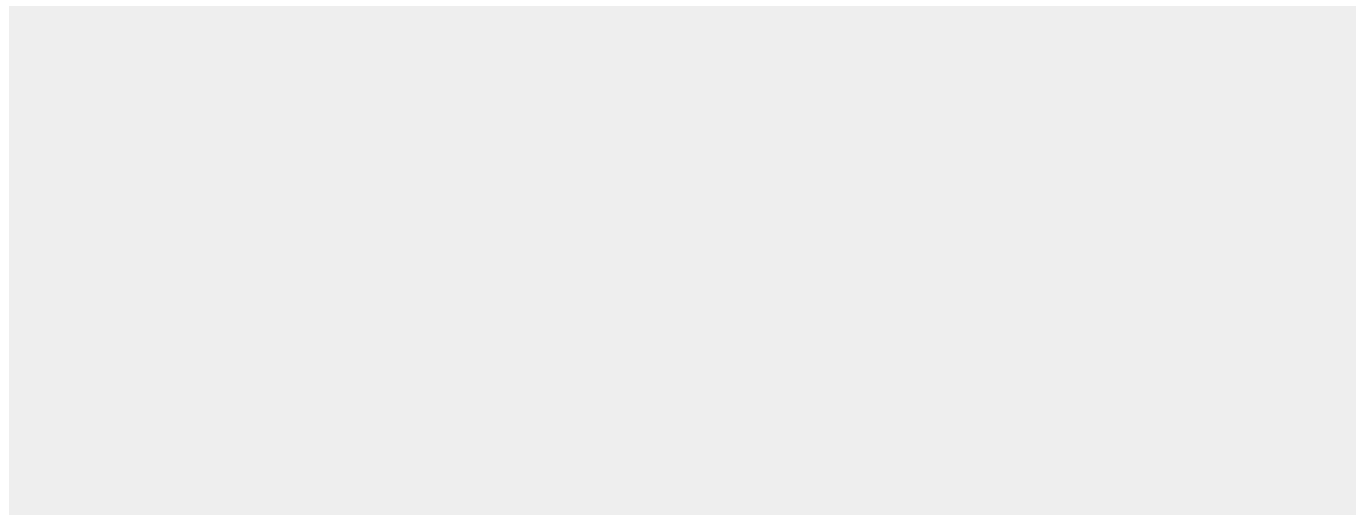
Tissue Location

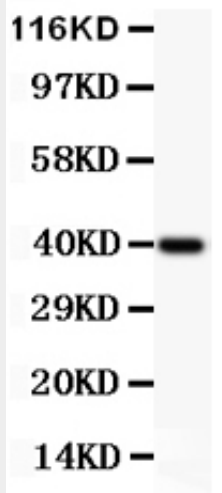
Widely expressed.

Anti-IKK Alpha Picoband Antibody - Protocols

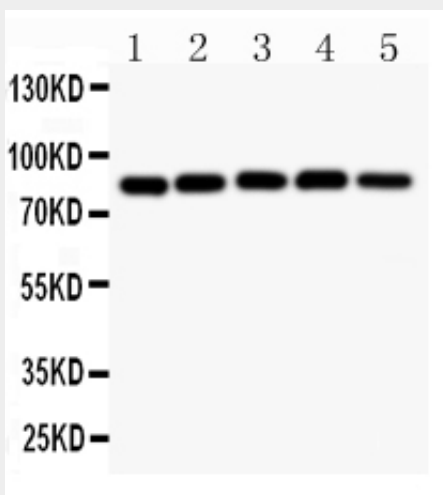
Provided below are standard protocols that you may find useful for product applications.

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

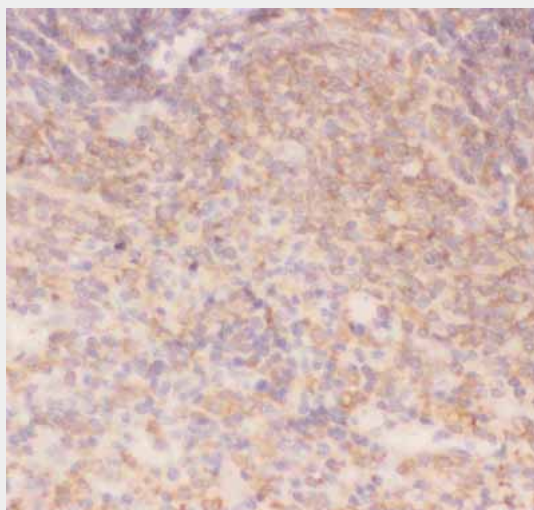
Anti-IKK Alpha Picoband Antibody - Images



Anti-IKK alpha Picoband antibody, ABO11816-1.jpg All lanes: Anti IKKA (ABO11816) at 0.5ug/ml WB: Recombinant Human IKKA Protein 0.5ng Predicted bind size: 40KD Observed bind size: 40KD



Anti-IKK alpha Picoband antibody, ABO11816-2.jpg All lanes: Anti IKKA (ABO11816) at 0.5ug/ml Lane 1: MCF-7 Whole Cell Lysate at 40ug Lane 2: SGC Whole Cell Lysate at 40ug Lane 3: PANC Whole Cell Lysate at 40ug Lane 4: HELA Whole Cell Lysate at 40ug Lane 5: Mouse Cardiac Muscle Tissue Lysate at 50ug Predicted bind size: 85KD Observed bind size: 85KD



Anti-IKK alpha Picoband antibody, ABO11816-3.JPGIHC(P): Rat Spleen Tissue

Anti-IKK Alpha Picoband Antibody - Background

IKKA, also known as conserved helix-loop-helix ubiquitous kinase (CHUK) or IKBKA, is a protein kinase that in humans is encoded by the CHUK gene. It is mapped to 10q24.31. This gene encodes 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. IKKA is part of the I κ B kinase complex that plays an important role in regulating the NF-I κ B transcription factor. However, IKKA also has many additional cellular targets, and is thought to function independently of the NF-I κ B pathway to regulate epidermal differentiation.