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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 r˚Constitution, 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:9244310, PubMed:9252186, PubMed:9346484, PubMed:18626576). 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:9244310, PubMed:9252186, PubMed:9346484, PubMed:18626576, PubMed:35952808). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed:9244310, PubMed:9252186, PubMed:9346484, PubMed:18626576). 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:9244310, PubMed:9252186, PubMed:9346484, PubMed:18626576). 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. 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.

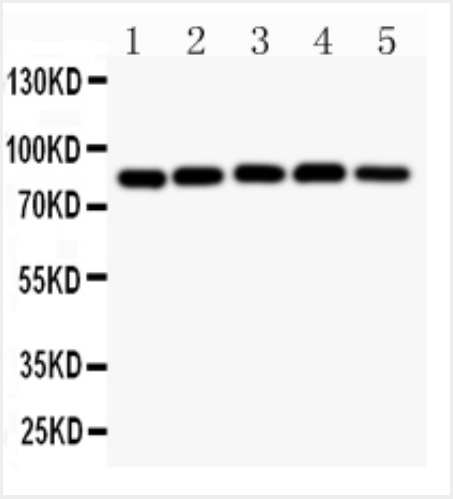
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-IKK Alpha Picoband Antibody - Images

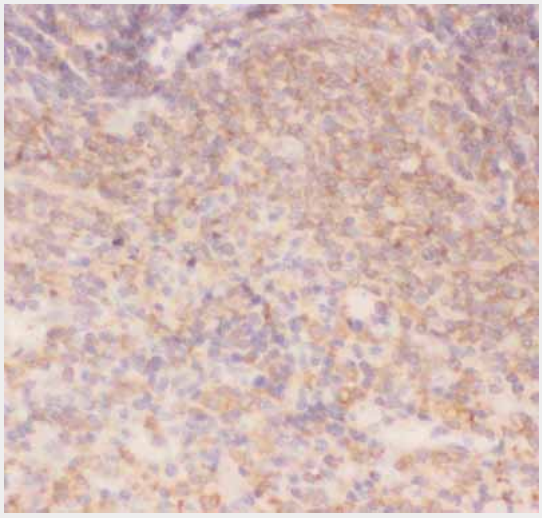
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Anti-IKK alpha Picoband antibody, ABO11816-1.jpgAll lanes: Anti IKKA (ABO11816) at 0.5ug/mlWB: Recombinant Human IKKA Protein 0.5ngPredicted bind size: 40KDObserved bind size: 40KD



Anti-IKK alpha Picoband antibody, ABO11816-2.jpgAll lanes: Anti IKKA (ABO11816) at 0.5ug/mlLane 1: MCF-7 Whole Cell Lysate at 40ugLane 2: SGC Whole Cell Lysate at 40ugLane 3: PANC Whole Cell Lysate at 40ugLane 4: HELA Whole Cell Lysate at 40ugLane 5: Mouse Cardiac Muscle Tissue Lysate at 50ugPredicted bind size: 85KDObserved bind size: 85KD



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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 ubiquination pathway, thereby activating the transcription factor. IKKA is part of the IÎºB kinase complex that plays an important role in regulating the NF-ÎºB transcription factor. However, IKKA also has many additional cellular targets, and is thought to function independently of the NF-ÎºB pathway to regulate epidermal differentiation.