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Anti-IKK Alpha Picoband Antibody

Catalog # ABO11816

Product Information

Application	WB, IHC-P
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.

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
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Cytoplasm . Nucleus . Shuttles between the cytoplasm and the nucleus.
Tissue Specificity	Widely expressed.
Source	Eukaryota
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.

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.

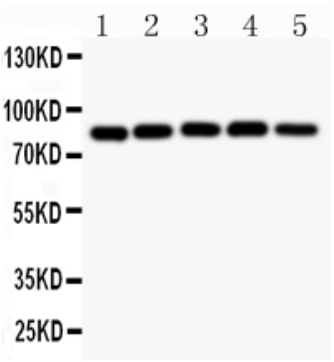
Background

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 I □B kinase complex that plays an important role in regulating the NF- □B transcription factor. However, IKKA also has many additional cellular targets, and is thought to function independently of the NF- □B pathway to regulate epidermal differentiation.

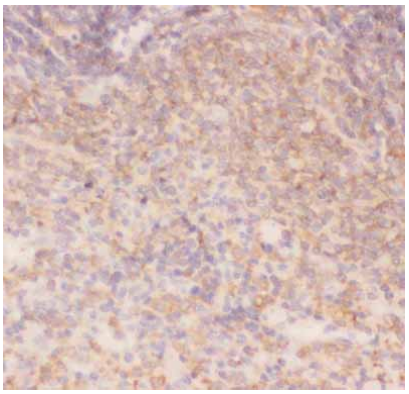
Images



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



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

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