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IKKalpha/IKK-1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10151

Specification

IKKalpha/IKK-1 Antibody - Product Information

Application	**WB**
Primary Accession	O15111
Other Accession	NP_001269
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**84640**

IKKalpha/IKK-1 Antibody - Additional Information

Gene ID 1147

Application & Usage	**Western blot (at 0.5-1 µg/ml) and immunoprecipitation (4-8 µg/ml). However, the optimal conditions should be determined individually.**

Other Names
IKK-alpha, IKKA, IKK-A, IKBKA, NFKBIKA, TCF16, CHUK, IKK1

Target/Specificity
IKKa/IKK-1

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) Protein A purified rabbit anti-IKKα polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 50% glycerol, 1% BSA, 0.02% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
IKKalpha/IKK-1 Antibody is for research use only and not for use in diagnostic or therapeutic

procedures.

IKKalpha/IKK-1 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

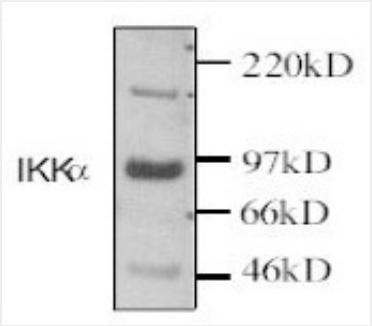
Tissue Location
Widely expressed.

IKKalpha/IKK-1 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

IKKalpha/IKK-1 Antibody - Images



Western blot analysis of IKKα in transfected RBL cells with anti-human IKKα .

IKKalpha/IKK-1 Antibody - Background

IKKα (IkB kinase-α or IKK-1) is part of a large protein complex responsible for the inducible phosphorylation of IkB proteins. Human IKK-α is an 85 kDa peptide that has been shown to activate NFkB by phosphorylation of IkB proteins. IKKα interacts with its upstream kinase, NIK, and its downstream substrate, the IkB proteins. Mutations of IKKα in its kinase domain lead to a dominant-negative phenotype that suppresses TNF-α and IL-1β induced NFkB activation.