

# IKKB Antibody (Center Y609)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP20326c

## Product Information

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<b>Application</b>	WB, E
<b>Primary Accession</b>	<a href="#">O14920</a>
<b>Other Accession</b>	<a href="#">O88351</a> , <a href="#">Q95KV0</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>	RB42186
<b>Calculated MW</b>	86564
<b>Antigen Region</b>	587-615

## Additional Information

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<b>Gene ID</b>	3551
<b>Other Names</b>	Inhibitor of nuclear factor kappa-B kinase subunit beta, I-kappa-B-kinase beta, IKK-B, IKK-beta, IkbKB, I-kappa-B kinase 2, IKK2, Nuclear factor NF-kappa-B inhibitor kinase beta, NFKBIKB, IKBKB, IKKB
<b>Target/Specificity</b>	This IKKB antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 587-615 amino acids from the Central region of human IKKB.
<b>Dilution</b>	WB~~1:1000 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>	IKKB Antibody (Center Y609) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	IKBKB
<b>Synonyms</b>	IKKB

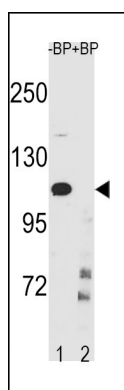
<b>Function</b>	<p>Serine kinase that plays an essential role in the NF-kappa-B signaling pathway which is activated by multiple stimuli such as inflammatory cytokines, bacterial or viral products, DNA damages or other cellular stresses (PubMed:<a href="#">20434986</a>, PubMed:<a href="#">20797629</a>, PubMed:<a href="#">21138416</a>, PubMed:<a href="#">30337470</a>, PubMed:<a href="#">9346484</a>). Acts as a part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation (PubMed:<a href="#">9346484</a>). Phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues (PubMed:<a href="#">20434986</a>, PubMed:<a href="#">20797629</a>, PubMed:<a href="#">21138416</a>, PubMed:<a href="#">9346484</a>). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed:<a href="#">20434986</a>, PubMed:<a href="#">20797629</a>, PubMed:<a href="#">21138416</a>, PubMed:<a href="#">9346484</a>). 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:<a href="#">20434986</a>, PubMed:<a href="#">20797629</a>, PubMed:<a href="#">21138416</a>, PubMed:<a href="#">9346484</a>). In addition to the NF-kappa-B inhibitors, phosphorylates several other components of the signaling pathway including NEMO/IKBKG, NF-kappa-B subunits RELA and NFkB1, as well as IKK-related kinases TBK1 and IKBKE (PubMed:<a href="#">11297557</a>, PubMed:<a href="#">14673179</a>, PubMed:<a href="#">20410276</a>, PubMed:<a href="#">21138416</a>). IKK-related kinase phosphorylations may prevent the overproduction of inflammatory mediators since they exert a negative regulation on canonical IKKs (PubMed:<a href="#">11297557</a>, PubMed:<a href="#">20410276</a>, PubMed:<a href="#">21138416</a>). Phosphorylates FOXO3, mediating the TNF-dependent inactivation of this pro-apoptotic transcription factor (PubMed:<a href="#">15084260</a>). Also phosphorylates other substrates including NAA10, NCOA3, BCL10 and IRS1 (PubMed:<a href="#">17213322</a>, PubMed:<a href="#">19716809</a>). Phosphorylates RIPK1 at 'Ser-25' which represses its kinase activity and consequently prevents TNF- mediated RIPK1-dependent cell death (By similarity). Phosphorylates the C-terminus of IRF5, stimulating IRF5 homodimerization and translocation into the nucleus (PubMed:<a href="#">25326418</a>). Following bacterial lipopolysaccharide (LPS)-induced TLR4 endocytosis, phosphorylates STAT1 at 'Thr-749' which restricts interferon signaling and anti-inflammatory responses and promotes innate inflammatory responses (PubMed:<a href="#">38621137</a>). IKBKB-mediated phosphorylation of STAT1 at 'Thr-749' promotes binding of STAT1 to the ARID5A promoter, resulting in transcriptional activation of ARID5A and subsequent ARID5A-mediated stabilization of IL6 (PubMed:<a href="#">32209697</a>). It also promotes binding of STAT1 to the IL12B promoter and activation of IL12B transcription (PubMed:<a href="#">32209697</a>).</p>
<b>Cellular Location</b>	Cytoplasm. Nucleus. Membrane raft. Note=Colocalized with DPP4 in membrane rafts.
<b>Tissue Location</b>	Highly expressed in heart, placenta, skeletal muscle, kidney, pancreas, spleen, thymus, prostate, testis and peripheral blood

## Background

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. Acts as part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation and phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues. These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome. 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. In addition to the NF-kappa-B inhibitors, phosphorylates several other components of the signaling pathway including NEMO/IKBKG, NF-kappa-B subunits RELA and NFkB1, as well as IKK-related kinases TBK1 and IKBKE. IKK-related kinase phosphorylations may prevent the overproduction of inflammatory mediators since they exert a negative regulation on canonical IKKs. Also phosphorylates other substrates including NCOA3, BCL10 and IRS1. Within the nucleus, acts as an adapter protein for NFKBIA degradation in UV-induced NF-kappa-B activation.

## Images

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IKKB Antibody (Center Y609) (Cat. #AP20326c) western blot analysis in CEM cell line lysates (35ug/lane). This demonstrates the IKKB antibody detected the IKKB protein (arrow).

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