

IKK beta Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8109a

Specification

IKK beta Antibody - Product Information

Application	IF, IHC-P, WB,E
Primary Accession	O14920
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG

IKK beta Antibody - Additional Information

Gene ID 3551

Other Names

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

Target/Specificity

This IKK beta antibody is generated from rabbits immunized with recombinant human IKK beta (full length sequence).

Dilution

IF~~~1:10~50
IHC-P~~~1:50~100
WB~~~1:1000
E~~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage

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.

Precautions

IKK beta Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

IKK beta Antibody - Protein Information

Name IKBKB

Synonyms IKKB

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:[20434986](#), PubMed:[20797629](#), PubMed:[21138416](#), PubMed:[30337470](#), PubMed:[9346484](#)). Acts as a part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation (PubMed:[9346484](#)). Phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues (PubMed:[20434986](#), PubMed:[20797629](#), PubMed:[21138416](#), PubMed:[9346484](#)). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed:[20434986](#), PubMed:[20797629](#), PubMed:[21138416](#), 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:[20434986](#), PubMed:[20797629](#), PubMed:[21138416](#), PubMed:[9346484](#)). 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:[11297557](#), PubMed:[14673179](#), PubMed:[20410276](#), PubMed:[21138416](#)). IKK-related kinase phosphorylations may prevent the overproduction of inflammatory mediators since they exert a negative regulation on canonical IKKs (PubMed:[11297557](#), PubMed:[20410276](#), PubMed:[21138416](#)). Phosphorylates FOXO3, mediating the TNF-dependent inactivation of this pro-apoptotic transcription factor (PubMed:[15084260](#)). Also phosphorylates other substrates including NAA10, NCOA3, BCL10 and IRS1 (PubMed:[17213322](#), PubMed:[19716809](#)). 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:[25326418](#)). 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:[38621137](#)). 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:[32209697](#)). It also promotes binding of STAT1 to the IL12B promoter and activation of IL12B transcription (PubMed:[32209697](#)).

Cellular Location

Cytoplasm. Nucleus. Membrane raft. Note=Colocalized with DPP4 in membrane rafts.

Tissue Location

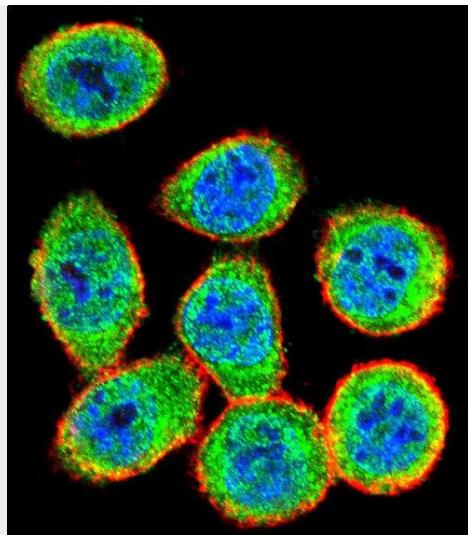
Highly expressed in heart, placenta, skeletal muscle, kidney, pancreas, spleen, thymus, prostate, testis and peripheral blood

IKK beta Antibody - Protocols

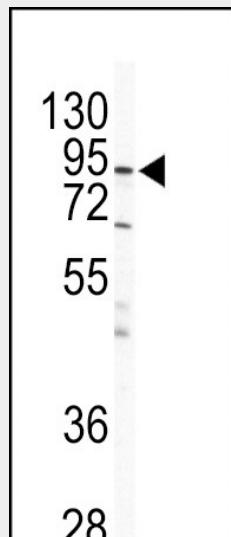
Provided below are standard protocols that you may find useful for product applications.

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

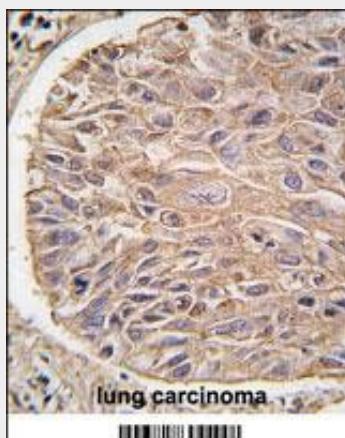
IKK beta Antibody - Images



Confocal immunofluorescent analysis of IKK beta Antibody(Cat#AP8109a) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).DAPI was used to stain the cell nuclear (blue).



Western blot analysis of anti-IKK beta Antibody (Cat.#AP8109a) in HeLa cell line lysates (35ug/lane). IKK beta (arrow) was detected using the purified Pa.



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with IKK beta

antibody (Cat.#AP8109a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

IKK beta Antibody - Background

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.

IKK beta Antibody - References

Tang, E.D., et al., *J. Biol. Chem.* 278(40):38566-38570 (2003).
Sakurai, H., et al., *J. Biol. Chem.* 278(38):36916-36923 (2003).
Ebner, K., et al., *Blood* 102(1):192-199 (2003).
Carter, R.S., et al., *J. Biol. Chem.* 278(22):19642-19648 (2003).
Huang, W.C., et al., *J. Biol. Chem.* 278(11):9944-9952 (2003).

IKK beta Antibody - Citations

- [Activation of porcine alveolar macrophages by *Actinobacillus pleuropneumoniae* lipopolysaccharide via the TLR4/NF- \$\kappa\$ B mediated pathway.](#)
- [Increased NF- \$\kappa\$ B and Decreased Wnt- \$\beta\$ -Catenin Signaling Mediate the Reduced Osteoblast Differentiation and Function in F508 \$\Delta\$ -CFTR Mice.](#)
- [The *Listeria monocytogenes* InIC protein interferes with innate immune responses by targeting the I \$\{\kappa\}\$ B kinase subunit IKK \$\{\alpha\}\$.](#)
- [Regulation of I \$\{\kappa\}\$ B kinase complex by phosphorylation of \(gamma\)-binding domain of I \$\{\kappa\}\$ B kinase \(beta\) by Polo-like kinase 1.](#)