

Anti-IKK Beta Antibody
Catalog # ABO11344**Specification****Anti-IKK Beta Antibody - Product Information**

Application	WB
Primary Accession	O14920
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Inhibitor of nuclear factor kappa-B kinase subunit beta(IKBKB) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-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, 2.7.11.10, I-kappa-B kinase 2, IKK2, Nuclear factor NF-kappa-B inhibitor kinase beta, NFKB1KB, IKBKB, IKKB

Calculated MW

86564 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization

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

Tissue Specificity

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

Protein Name

Inhibitor of nuclear factor kappa-B kinase subunit beta

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human IKK beta(588-604aa QEMVRLLLQAIQSFEKK), identical to the related mouse sequence, and different from the related rat

sequence by one amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, 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 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](http://www.uniprot.org/citations/20434986), PubMed: [20797629](http://www.uniprot.org/citations/20797629), PubMed: [21138416](http://www.uniprot.org/citations/21138416), PubMed: [30337470](http://www.uniprot.org/citations/30337470), PubMed: [9346484](http://www.uniprot.org/citations/9346484)). Acts as a part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation (PubMed: [9346484](http://www.uniprot.org/citations/9346484)). Phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues (PubMed: [20434986](http://www.uniprot.org/citations/20434986), PubMed: [20797629](http://www.uniprot.org/citations/20797629), PubMed: [21138416](http://www.uniprot.org/citations/21138416), PubMed: [9346484](http://www.uniprot.org/citations/9346484)). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed: [20434986](http://www.uniprot.org/citations/20434986), PubMed: [20797629](http://www.uniprot.org/citations/20797629), PubMed: [21138416](http://www.uniprot.org/citations/21138416), PubMed: [9346484](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/20434986), PubMed: [20797629](http://www.uniprot.org/citations/20797629), PubMed: [21138416](http://www.uniprot.org/citations/21138416), PubMed: [9346484](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/11297557), PubMed: [14673179](http://www.uniprot.org/citations/14673179), PubMed: [20410276](http://www.uniprot.org/citations/20410276)).

target="_blank">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

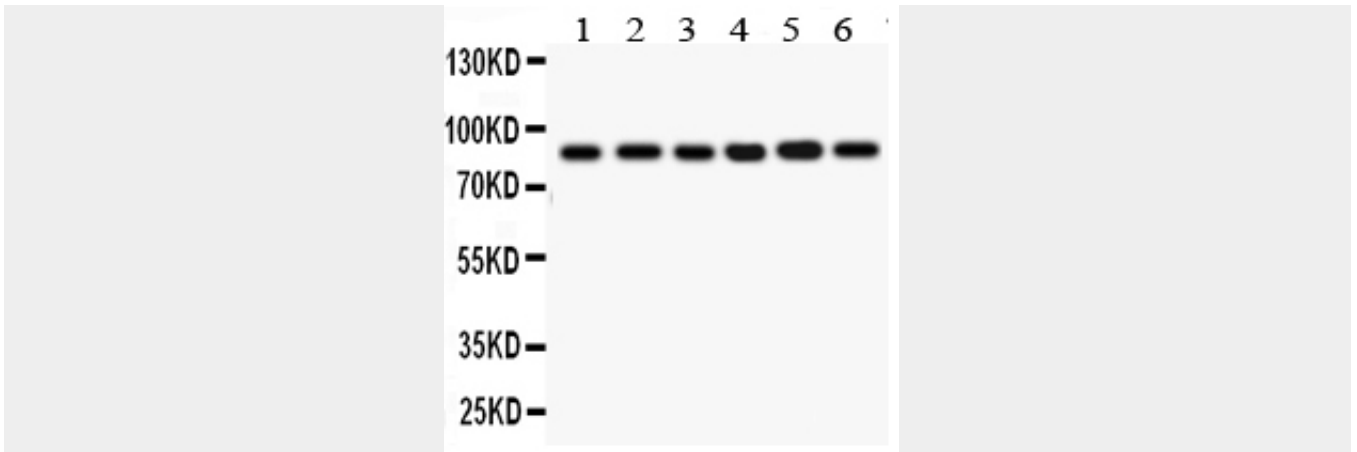
Anti-IKK Beta Antibody - Protocols

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](#)

Anti-IKK Beta Antibody - Images





Anti- IKKβ antibody, ABO11344, Western blotting All lanes: Anti IKKβ (ABO11344) at 0.5ug/ml
Lane 1: Rat Cardiac Muscle Tissue Lysate at 50ug
Lane 2: Rat Skeletal Muscle Tissue Lysate at 50ug
Lane 3: PANC Whole Cell Lysate at 40ug
Lane 4: MCF-7 Whole Cell Lysate at 40ug
Lane 5: HEPG2 Whole Cell Lysate at 40ug
Lane 6: COLO320 Cell Lysate at 40ug
Predicted bind size: 87KD
Observed bind size: 87KD

Anti-IKK Beta Antibody - Background

IKKβ (Inhibitor of Kappa Light Chain Gene Enhancer in B Cells, Kinase of, Beta), also known as IKKβ or NFKB1B, is a protein that in humans is encoded by the IKKβ gene. Shindo et al. (1998) mapped the IKKβ gene to chromosome 8p12-p11 by FISH. Mercurio et al. (1997) found that mutations in IKK2 had a more pronounced effect upon NFκB activation than did comparable mutations in IKK1. Yin et al. (1998) tested the activity of various anti-inflammatory agents on the IKK complex. They demonstrated that aspirin and sodium salicylate specifically inhibit IKK-beta activity in vitro and in vivo by binding to IKK-beta to reduce ATP binding.