

**Anti-IKK beta IKBKB Rabbit Monoclonal Antibody**  
**Catalog # ABO13941****Specification****Anti-IKK beta IKBKB Rabbit Monoclonal Antibody - Product Information**

Application	WB, IHC, IF, ICC
Primary Accession	<a href="#">O14920</a>
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

**Description**

Anti-IKK beta IKBKB Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF applications. This antibody reacts with Human, Mouse, Rat.

**Anti-IKK beta IKBKB Rabbit Monoclonal 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, IKK-2, IKK2, Nuclear factor NF-kappa-B inhibitor kinase beta, NFKB1KB, Serine/threonine protein kinase IKBKB, 2.7.11.1, IKBKB, IKKB

**Calculated MW**

86564 MW KDa

**Application Details**

WB 1:500-1:2000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200

**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.

**Contents**

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

**Immunogen**

A synthesized peptide derived from human IKK beta

**Purification**

Affinity-chromatography

**Storage**

**Store at -20°C for one year. For short term**

**storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

## **Anti-IKK beta IKBKB Rabbit Monoclonal 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: <a href="http://www.uniprot.org/citations/20434986" target="\_blank">20434986</a>, PubMed: <a href="http://www.uniprot.org/citations/20797629" target="\_blank">20797629</a>, PubMed: <a href="http://www.uniprot.org/citations/21138416" target="\_blank">21138416</a>, PubMed: <a href="http://www.uniprot.org/citations/30337470" target="\_blank">30337470</a>, PubMed: <a href="http://www.uniprot.org/citations/9346484" target="\_blank">9346484</a>). Acts as a part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation (PubMed: <a href="http://www.uniprot.org/citations/9346484" target="\_blank">9346484</a>). Phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues (PubMed: <a href="http://www.uniprot.org/citations/20434986" target="\_blank">20434986</a>, PubMed: <a href="http://www.uniprot.org/citations/20797629" target="\_blank">20797629</a>, PubMed: <a href="http://www.uniprot.org/citations/21138416" target="\_blank">21138416</a>, PubMed: <a href="http://www.uniprot.org/citations/9346484" target="\_blank">9346484</a>). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed: <a href="http://www.uniprot.org/citations/20434986" target="\_blank">20434986</a>, PubMed: <a href="http://www.uniprot.org/citations/20797629" target="\_blank">20797629</a>, PubMed: <a href="http://www.uniprot.org/citations/21138416" target="\_blank">21138416</a>, PubMed: <a href="http://www.uniprot.org/citations/9346484" target="\_blank">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="http://www.uniprot.org/citations/20434986" target="\_blank">20434986</a>, PubMed: <a href="http://www.uniprot.org/citations/20797629" target="\_blank">20797629</a>, PubMed: <a href="http://www.uniprot.org/citations/21138416" target="\_blank">21138416</a>, PubMed: <a href="http://www.uniprot.org/citations/9346484" target="\_blank">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="http://www.uniprot.org/citations/11297557" target="\_blank">11297557</a>, PubMed: <a href="http://www.uniprot.org/citations/14673179" target="\_blank">14673179</a>, PubMed: <a href="http://www.uniprot.org/citations/20410276" target="\_blank">20410276</a>, PubMed: <a href="http://www.uniprot.org/citations/21138416" target="\_blank">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="http://www.uniprot.org/citations/11297557" target="\_blank">11297557</a>, PubMed: <a href="http://www.uniprot.org/citations/20410276" target="\_blank">20410276</a>, PubMed: <a href="http://www.uniprot.org/citations/21138416" target="\_blank">21138416</a>). Phosphorylates FOXO3, mediating the TNF-dependent inactivation of this pro-apoptotic transcription factor (PubMed: <a href="http://www.uniprot.org/citations/15084260" target="\_blank">15084260</a>). Also phosphorylates other substrates including NAA10, NCOA3, BCL10 and IRS1 (PubMed: <a href="http://www.uniprot.org/citations/17213322" target="\_blank">17213322</a>, PubMed: <a href="http://www.uniprot.org/citations/19716809" target="\_blank">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="http://www.uniprot.org/citations/25326418" target="\_blank">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="http://www.uniprot.org/citations/38621137" target="\_blank">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="http://www.uniprot.org/citations/32209697" target="\_blank">32209697</a>). It also promotes binding of STAT1 to the IL12B promoter and activation of IL12B transcription (PubMed:<a href="http://www.uniprot.org/citations/32209697" target="\_blank">32209697</a>).

#### Cellular Location

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

#### Tissue Location

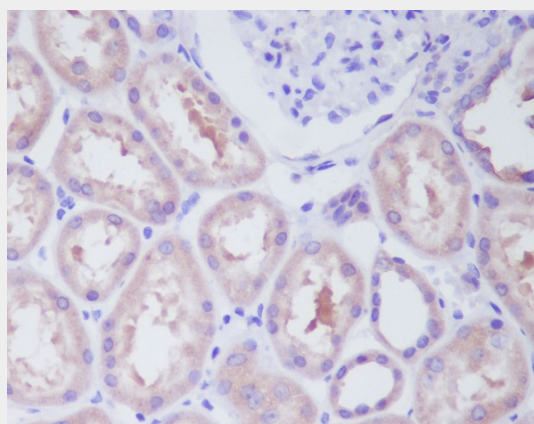
Highly expressed in heart, placenta, skeletal muscle, kidney, pancreas, spleen, thymus, prostate, testis and peripheral blood

### Anti-IKK beta IKBKB Rabbit Monoclonal Antibody - Protocols

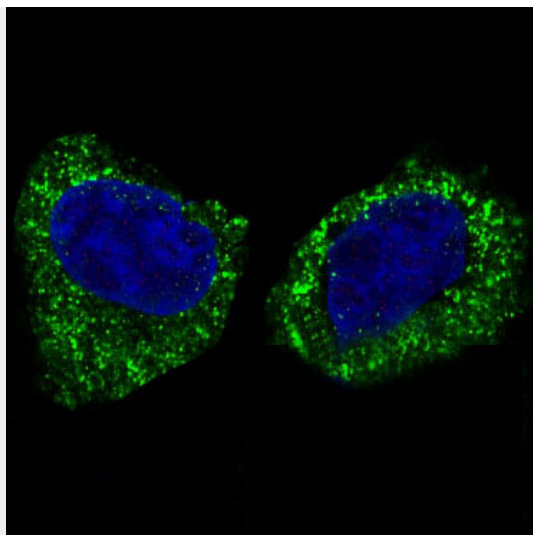
Provided below are standard protocols that you may find useful for product applications.

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

### Anti-IKK beta IKBKB Rabbit Monoclonal Antibody - Images



Immunohistochemical analysis of paraffin-embedded human kidney, using IKK beta Antibody.



Immunofluorescent analysis of HeLa cells, using IKK beta Antibody.

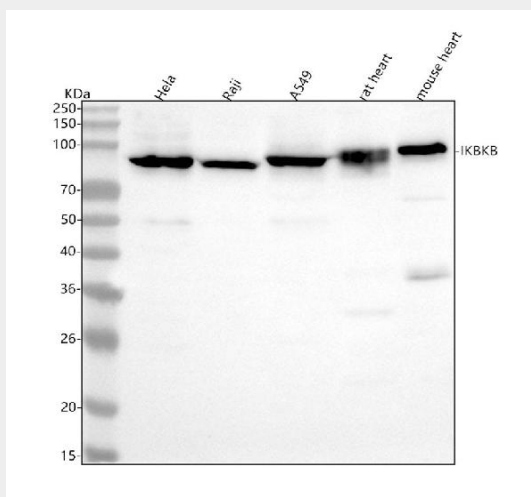


Figure 1. Western blot analysis of IKBKB using anti-*IKBKB* antibody (M00118).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: human Hela whole cell lysates,

Lane 2: human Raji whole cell lysates,

Lane 3: human A549 whole cell lysates,

Lane 4: rat heart tissue lysates,

Lane 5: mouse heart tissue lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-*IKBKB* antigen affinity purified monoclonal antibody (Catalog # M00118) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for *IKBKB* at approximately 87 kDa. The expected band size for *IKBKB* is at 87 kDa.