

**IKK $\beta$  Polyclonal Antibody**  
Catalog # AP70486**Specification****IKK $\beta$  Polyclonal Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">O14920</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

**IKK $\beta$  Polyclonal Antibody - Additional Information**

Gene ID 3551

**Other Names**

IKBKB; IKKB; 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; NFKB1KB

**Dilution**

WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/5000. Not yet tested in other applications.

**Format**

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

**Storage Conditions**

-20°C

**IKK $\beta$  Polyclonal 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))

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 IKKε (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>). IKKB-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

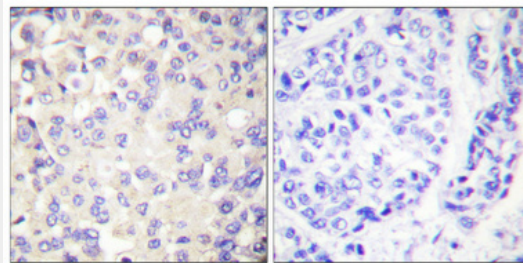
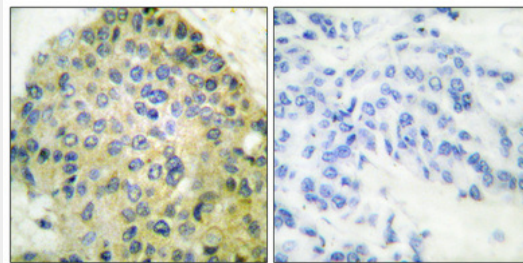
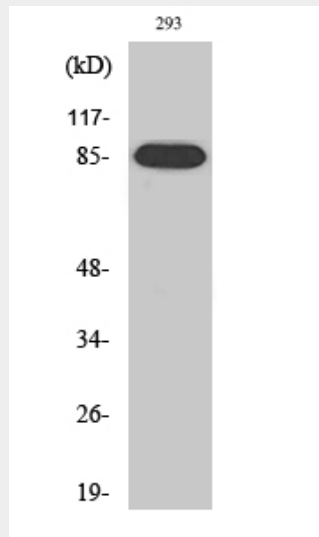
Highly expressed in heart, placenta, skeletal muscle, kidney, pancreas, spleen, thymus, prostate, testis and peripheral blood

### IKKβ Polyclonal 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 $\beta$ Polyclonal Antibody - Images



### IKK $\beta$ Polyclonal Antibody - 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 (PubMed:30337470). Acts as part of the canonical IKK complex in the conventional pathway of NF- $\kappa$ B activation. 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/I $\kappa$ BKG, 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. Phosphorylates FOXO3, mediating the TNF-dependent inactivation of this pro-apoptotic transcription factor. 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.