

**IKBKB Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1088a****Specification**

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**IKBKB Antibody - Product Information**

Application	<b>WB, IHC</b>
Primary Accession	<a href="#">O14920</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>

**Description**

IKBKB(Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta, also called IKK2/IKKB), is a member of the IKK complex which is composed of IKK-alpha, IKK-beta, IKK-gamma and IKAP. Phosphorylation of I-Kappa-B on a serine residue by the IKK complex frees NF-kB from I-Kappa-B and marks it for degradation via ubiquitination. IKK-beta has been shown to activate NF-kB and phosphorylate IKB-alpha and beta. Phosphorylation of 2 sites at the activation loop of IKK-beta is essential for activation of IKK by TNF and IL1. Once activated, IKK-beta autophosphorylates which in turn decreases IKK activity and prevents prolonged activation of the inflammatory response. Additionally, IKK-beta activity can also be regulated by MEKK-1.

**Immunogen**

Purified recombinant fragment of IKBKB expressed in E. Coli.

**Formulation**

Ascitic fluid containing 0.03% sodium azide.

**IKBKB 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

**Dilution**

WB~~1/500 - 1/2000

IHC~~1/200 - 1/1000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

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

## IKBKB 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/IKBK, 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>).

### 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

### IKBKB 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](#)

### IKBKB Antibody - Images

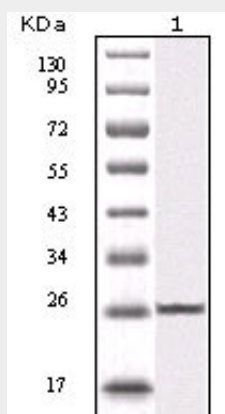


Figure 1: Western blot analysis using IKBKB mouse mAb against truncated IKBKB recombinant protein (1).

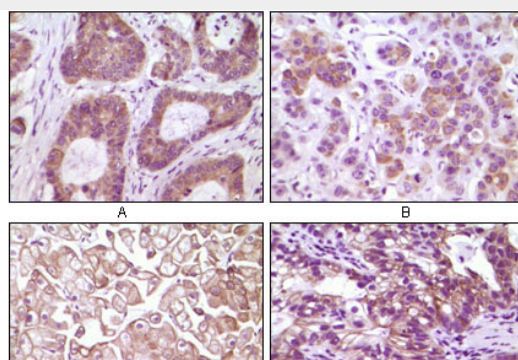


Figure 2: Immunohistochemical analysis of paraffin-embedded human colon carcinoma(A), breast carcinoma(B), kidney cell carcinoma(C), bladder carcinoma tumor(D), showing membrane and cytoplasmic localization using IKBKB mouse mAb with DAB staining.

### IKBKB Antibody - References

1. Azoitei N, et al. Biochemistry. 2005.14;44(23): 8326-36. 2. Kumar KA, et al. Neurosci Lett. 2003.10;340(2): 139-42. 3. Peet GW, et al. J Biol Chem. 1999 Nov 12;274(46): 32655-61.