

**Anti-IKK $\beta$  (RABBIT) Antibody**  
**IKK beta Antibody**  
**Catalog # ASR3683****Specification**

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**Anti-IKK $\beta$  (RABBIT) Antibody - Product Information**

|                  |                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host             | Rabbit                                                                                                                                                                                                                                                                                                                                                                                       |
| Conjugate        | Unconjugated                                                                                                                                                                                                                                                                                                                                                                                 |
| Target Species   | Human                                                                                                                                                                                                                                                                                                                                                                                        |
| Reactivity       | Rat, Human, Mouse                                                                                                                                                                                                                                                                                                                                                                            |
| Clonality        | Polyclonal                                                                                                                                                                                                                                                                                                                                                                                   |
| Application      | WB, IHC, E, I, LCI                                                                                                                                                                                                                                                                                                                                                                           |
| Application Note | This product was tested by immunoblot and found to be reactive against IKK-b at a dilution of 1:1000 followed by reaction with Peroxidase conjugated Affinity Purified anti-Rabbit IgG [H&L] (Goat) code #611-1302. Anti-IKKb is suitable for the detection by immunoblot of human, mouse and rat IKKb showing an 87 kDa band. Anti-IKKb has been tested in IHC using human placenta tissue. |
| Physical State   | Liquid (sterile filtered)                                                                                                                                                                                                                                                                                                                                                                    |
| Immunogen        | IKKb peptide corresponding to the highly conserved C-terminus region of the human protein conjugated to Keyhole Limpet Hemocyanin (KLH).                                                                                                                                                                                                                                                     |
| Preservative     | 0.01% (w/v) Sodium Azide                                                                                                                                                                                                                                                                                                                                                                     |

**Anti-IKK $\beta$  (RABBIT) Antibody - Additional Information****Gene ID** 3551**Other Names**  
3551**Purity**

This product was prepared from monospecific antiserum by delipidation and defibrination. Anti-IKKb may react non-specifically with other proteins. Control peptide (code #100-401-220p) will compete only with the specific reaction of antiserum with the IKKb subunit.

**Storage Condition**

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

**Precautions Note**

This product is for research use only and is not intended for therapeutic or diagnostic applications.

## Anti-IKK $\beta$ (RABBIT) Antibody - Protein Information

**Name** IKKBK

**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

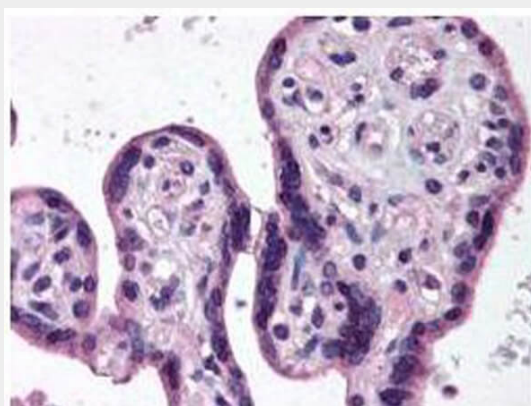
Highly expressed in heart, placenta, skeletal muscle, kidney, pancreas, spleen, thymus, prostate, testis and peripheral blood

### Anti-IKK $\beta$ (RABBIT) 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 $\beta$ (RABBIT) Antibody - Images



Immunohistochemistry of Anti-IKK $\beta$  antibody. Tissue: human placenta was formalin fixed and paraffin embedded. No pre-treatment of sample was required. Primary Antibody: Anti-IKK $\beta$  was diluted 1:500 to detect IKK $\beta$  in tissue. The image shows the localization of antibody as the precipitated red signal, with a hematoxylin purple nuclear counter stain.

### Anti-IKK $\beta$ (RABBIT) Antibody - Background

NF $\kappa$ B comprises a family of cellular transcription factors that are involved in the inducible expression of a variety of cellular genes that regulate the inflammatory response and control of cell death. In the cytoplasm NF $\kappa$ B is negatively modulated by the inhibitory proteins I $\kappa$ B. In turn I $\kappa$ B is

phosphorylated by a cellular kinase complex called IKK. IKK is a heterodimer composed of two kinases: IKK-a and IKK-b that phosphorylate I $\kappa$ B leading to its degradation and the resulting translocation of NF $\kappa$ B to the nucleus. IKK kinase activity is modulated negatively by pharmaceutical agents such as aspirin and positively by various cellular components such as TNF- $\alpha$ , endotoxins and overexpression of cellular kinases like MEKK1. Aspirin appears to have its effect by inhibiting the binding of ATP to IKK.