

IKKB Antibody (C-term S682) Blocking Peptide
Synthetic peptide
Catalog # BP19108b**Specification**

IKKB Antibody (C-term S682) Blocking Peptide - Product InformationPrimary Accession [O14920](#)**IKKB Antibody (C-term S682) Blocking Peptide - 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, I-kappa-B kinase 2, IKK2, Nuclear factor NF-kappa-B inhibitor kinase beta, NFKB1KB, IKBKB, IKKB

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

IKKB Antibody (C-term S682) Blocking Peptide - 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)).

target="_blank">9346484). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed:20434986, PubMed:20797629, PubMed:21138416, PubMed: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, PubMed:20797629, PubMed:21138416, PubMed: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 IKKBE (PubMed:11297557, PubMed:14673179, PubMed: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

IKKB Antibody (C-term S682) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

IKKB Antibody (C-term S682) Blocking Peptide - Images**IKKB Antibody (C-term S682) Blocking Peptide - Background**

NFKB1 (MIM 164011) or NFKB2 (MIM 164012) is bound to REL (MIM 164910), RELA (MIM 164014), or RELB (MIM 604758) to form the NF- κ B complex. The NF- κ B complex is inhibited by I- κ B proteins (NFKBIA, MIM 164008, or NFKBIB, MIM 604495), which inactivate NF- κ B by trapping it in the cytoplasm. Phosphorylation of serine residues on the I- κ B proteins by kinases (IKBKA, MIM 600664, or IKBKB) marks them for destruction via the ubiquitination pathway, thereby allowing activation of the NF- κ B complex. Activated NF- κ B complex translocates into the nucleus and binds DNA at κ B-binding motifs such as 5'-GGGRNNYYCC-3' or 5'-HGGARNYYCC-3' (where H is A, C, or T; R is an A or G purine; and Y is a C or T pyrimidine).

IKKB Antibody (C-term S682) Blocking Peptide - References

Yatharajam, G., et al. J. Immunol. 185(5):2665-2669(2010) Kenneth, N.S., et al. EMBO J. 29(17):2966-2978(2010) Zhao, M., et al. J. Biol. Chem. 285(32):24372-24380(2010) Niida, M., et al. Mol. Immunol. 47(14):2378-2387(2010) Schuurhof, A., et al. Pediatr. Pulmonol. 45(6):608-613(2010)