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# IKKB(S692) Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP22422a

## Product Information

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| **Application** | WB, E |
| **Primary Accession** | O14920 |
| **Reactivity** | Human |
| **Host** | Rabbit |
| **Clonality** | polyclonal |
| **Isotype** | Rabbit Ig |
| **Clone Names** | R04061NP |
| **Calculated MW** | 86564 |

## Additional Information

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| **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, NFKBIKB, Serine/threonine protein kinase IKBKB, 2.7.11.1, IKBKB, IKKB |
| **Target/Specificity** | This IKKB(S692) antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between amino acids from the human region of human IKKB(S692). |
| **Dilution** | WB~~1:1000 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | IKKB(S692) Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | IKBKB |
| **Synonyms** | IKKB |
| **Function** | Serine kinase that plays an essential role in the NF-kappa-B signaling |

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| | pathway which is activated by multiple stimuli such as inflammatory cytokines, bacterial or viral products, DNA damages or other cellular stresses (PubMed:20434986, PubMed:20797629, PubMed:21138416, PubMed:30337470, PubMed:9346484). Acts as a part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation (PubMed:9346484). Phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues (PubMed:20434986, PubMed:20797629, PubMed:21138416, PubMed: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 IKBKE (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 |

## 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:20434986, PubMed:20797629, PubMed:21138416, PubMed:9346484, PubMed:30337470). Acts as a part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation (PubMed:9346484). Phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues (PubMed:9346484, PubMed:20434986, PubMed:20797629, PubMed:21138416). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed:9346484, PubMed:20434986, PubMed:20797629, PubMed:21138416). 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:9346484, PubMed:20434986, PubMed:20797629, PubMed:21138416). 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:11297557, PubMed:14673179, PubMed:20410276, PubMed:21138416). IKK-related kinase

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## References


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Woronicz J.D.,et al.Science 278:866-869(1997).
Hu M.C.-T.,et al.Gene 222:31-40(1998).
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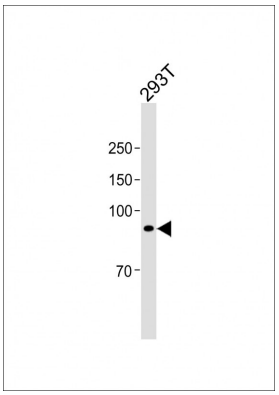
Ota T.,et al.Nat. Genet. 36:40-45(2004).


## Images




All lanes: Anti-IKKB(S692) Antibody at 1:500 dilution + 293T whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 87 KDa Blocking/Dilution buffer: 5% NFDM/TBST.