Rabbit IKK beta Polyclonal Antibody | anti-IKBKB antibody

Phospho-IKK beta (Tyr199) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321429	**Rabbit**	**Human, Mouse, Rat, Monkey**	**ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot**

PRODUCT SYNONYMS

IKK beta; Polyclonal Antibody; Phospho-IKK beta (Tyr199) Antibody; I kappa B kinase 2; I kappa B kinase beta; I-kappa-B kinase 2; I-kappa-B-kinase beta; IkBKB; IKK-B; IKK-beta; IKK2; IKKB; IKKB_HUMAN; IMD15; Inhibitor of kappa light polypeptide gene enhancer in B cells; kinase beta; Inhibitor of nuclear factor kappa-B kinase subunit beta; NFKBIKB; Nuclear factor NF-kappa-B inhibitor kinase beta; anti-IKBKB antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat, Monkey
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-IKK-beta (Tyr199) antibody detects endogenous levels of IKK-beta only when phosphorylated at Tyrosine 199
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho-and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	754
Applicable Applications for anti-IKBKB antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human IKK-beta around the phosphorylation site of Tyrosine 199
Subcellular Location	Cytoplasm. Membrane raft. Colocalized with DPP4 in membrane rafts.
Tissue Specificity	Highly expressed in heart, placenta, skeletal muscle, kidney, pancreas, spleen, thymus, prostate, testis and peripheral blood.
Predicted Cross Reactivity	**Pig, Zebrafish, Bovine, Horse, Rabbit, Dog, Xenopus**
Similarity	Pig (100%), Zebrafish (92%), Bovine (100%), Horse (100%), Rabbit (100%), Dog (100%), Xenopus (92%)
Conjugation	Unconjugated
Epitope	Phospho Tyr199
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES

WB (Western Blot)
Western blot analysis of Phospho-IKK beta (Tyr199) expression in various lysates

WB (Western Blot)
Western blot analysis of IKK-beta phosphorylation expression in TNF-a treated HeLa whole cell lysates, The lane on the left is treated with the antigen-specific peptide.

IHC (Immunohiostchemistry)
AAA321429 at 1/200 staining human colon cancer tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

IF (Immunofluorescence)
AAA321429 staining COS7 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-IKBKB antibody	Description: IKK-beta is a kinase of the IKK family. Phosphorylates inhibitors of NF-kappa-B thus leading to the dissociation of the inhibitor/NF-kappa-B complex and ultimately the degradation of the inhibitor. Preferentially found as a heterodimer with IKK-alpha but also as an homodimer. 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. Acts as part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation and 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/IKBKG, 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. Subunit Structure: Component of the I-kappa-B-kinase (IKK) core complex consisting of CHUK, IKBKB and IKBKG; probably four alpha/CHUK-beta/IKBKB dimers are associated with four gamma/IKBKG subunits. The IKK core complex seems to associate with regulatory or adapter proteins to form a IKK-signalosome holo-complex (PubMed:12612076). The IKK complex associates with TERF2IP/RAP1, leading to promote IKK-mediated phosphorylation of RELA/p65 (By similarity). Part of a complex composed of NCOA2, NCOA3, CHUK/IKKA, IKBKB, IKBKG and CREBBP (PubMed:11971985). Part of a 70-90 kDa complex at least consisting of CHUK/IKKA, IKBKB, NFKBIA, RELA, ELP1 and MAP3K14 (PubMed:9751059). Found in a membrane raft complex, at least composed of BCL10, CARD11, DPP4 and IKBKB (PubMed:17287217). Interacts with SQSTM1 through PRKCZ or PRKCI (PubMed:10356400). Forms an NGF-induced complex with IKBKB, PRKCI and TRAF6 (By similarity). May interact with MAVS/IPS1 (PubMed:16177806). Interacts with NALP2 (PubMed:15456791). Interacts with TICAM1 (PubMed:14739303). Interacts with FAF1; the interaction disrupts the IKK complex formation (PubMed:17684021). Interacts with ATM (PubMed:16497931). Part of a ternary complex consisting of TANK, IKBKB and IKBKG (PubMed:12133833). Interacts with NIBP; the interaction is direct (PubMed:15951441). Interacts with ARRB1 and ARRB2 (PubMed:15173580). Interacts with TRIM21 (PubMed:19675099). Interacts with NLRC5; prevents IKBKB phosphorylation and kinase activity (PubMed:20434986). Interacts with PDPK1 (PubMed:16207722). Interacts with EIF2AK2/PKR (PubMed:10848580). The phosphorylated form interacts with PPM1A and PPM1B (PubMed:18930133). Interacts with ZNF268 isoform 2; the interaction is further increased in a TNF-alpha-dependent manner (PubMed:23091055). Interacts with IKBKE (PubMed:23453969). Interacts with NAA10, leading to NAA10 degradation (PubMed:19716809). Interacts with FOXO3 (PubMed:15084260). Interacts with AKAP13 (PubMed:23090968). Interacts with IFIT5; the interaction synergizes the recruitment of IKK to MAP3K7 and enhances IKK phosphorylation (PubMed:26334375). Interacts with LRRC14; disrupts IKBKB-IKBKG interaction preventing I-kappa-B-kinase (IKK) core complex formation and leading to a decrease of IKBKB phosphorylation and NF-kappaB activation (PubMed:27426725). Post-translational Modifications: Upon cytokine stimulation, phosphorylated on Ser-177 and Ser-181 by MEKK1 and/or MAP3K14/NIK as well as TBK1 and PRKCZ; which enhances activity. Once activated, autophosphorylates on the C-terminal serine cluster; which decreases activity and prevents prolonged activation of the inflammatory response. Phosphorylated by the IKK-related kinases TBK1 and IKBKE, which is associated with reduced CHUK/IKKA and IKBKB activity and NF-kappa-B-dependent gene transcription. Dephosphorylated at Ser-177 and Ser-181 by PPM1A and PPM1B. (Microbial infection) Acetylation of Thr-180 by Yersinia yopJ prevents phosphorylation and activation, thus blocking the I-kappa-B pathway. Ubiquitinated. Monoubiquitination involves TRIM21 that leads to inhibition of Tax-induced NF-kappa-B signaling. According to PubMed:19675099, 'Ser-163' does not serve as a monoubiquitination site. According to PubMed:16267042, ubiquitination on 'Ser-163' modulates phosphorylation on C-terminal serine residues. (Microbial infection) Monoubiquitination by TRIM21 is disrupted by Yersinia yopJ. Hydroxylated by PHD1/EGLN2, loss of hydroxylation under hypoxic conditions results in activation of NF-kappa-B. Similarity: The kinase domain is located in the N-terminal region. The leucine zipper is important to allow homo-and hetero-dimerization. At the C-terminal region is located the region responsible for the interaction with NEMO/IKBKG. Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. I-kappa-B kinase subfamily.
References	Zong J, Li FF, Liang K, Dai R, Zhang H, Yan L, Liu JL, Xu LH, Qian WH; Journal: Cell Physiol Biochem. Nuclear Localization Leucine-Rich-Repeat Protein 1 Deficiency Protects Against Cardiac Hypertrophy by Pressure Overload.

NCBI AND UNIPROT INFORMATION

NCBI GI #	299758411

NCBI GeneID	3551
NCBI Accession #	NP_001177649.1
NCBI GenBank Nucleotide #	NM_001190720.2
UniProt Accession #	O14920; O75327; B4DZ30; B4E0U4
Molecular Weight	Observed: 85 kDa Predicted: 87 kDa
NCBI Official Full Name	inhibitor of nuclear factor kappa-B kinase subunit beta isoform 2
NCBI Official Synonym Full Names	inhibitor of nuclear factor kappa B kinase subunit beta
NCBI Official Symbol	IKBKB
NCBI Official Synonym Symbols	IKK2; IKKB; IMD15; NFKBIKB; IKK-beta
NCBI Protein Information	inhibitor of nuclear factor kappa-B kinase subunit beta
UniProt Protein Name	Inhibitor of nuclear factor kappa-B kinase subunit beta
UniProt Gene Name	**IKBKB**
UniProt Synonym Gene Names	IKKB; I-kappa-B-kinase beta; IKK-B; IKK-beta; IkBKB; IKK2; NFKBIKB

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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