

ARG54686 anti-IKK beta antibody

Package: 50 µg, 25 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes IKK beta
Tested Reactivity	Hu
Predict Reactivity	Ms, Rat
Tested Application	ELISA, ICC/IF, WB
Specificity	This polyclonal antibody has no cross response to IKKa or IKKy.
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	IKK beta
Immunogen	Synthetic peptide within aa. 650-700 of Human IKK beta.
Conjugation	Un-conjugated
Alternate Names	Inhibitor of nuclear factor kappa-B kinase subunit beta; I-kappa-B kinase 2; IKK2; Nuclear factor NF-kappa-B inhibitor kinase beta; IKK-beta; NFKBKB; IKK-B; IkbKB; IKKB; IMD15; EC 2.7.11.10; I-kappa-B-kinase beta

Application Instructions

Application table	Application	Dilution
	ELISA	Assay-dependent
	ICC/IF	10 µg/ml
	WB	0.5 µg/ml
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	
Positive Control	Jurkat Cell Lysate	

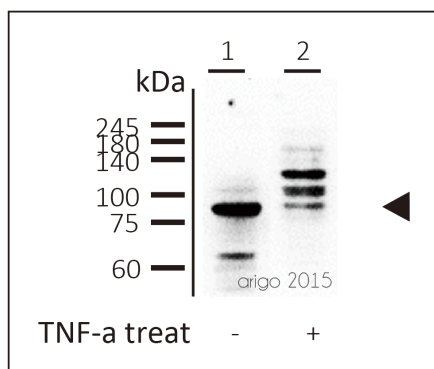
Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS and 0.02% Sodium azide
Preservative	0.02% Sodium azide
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note For laboratory research only, not for drug, diagnostic or other use.

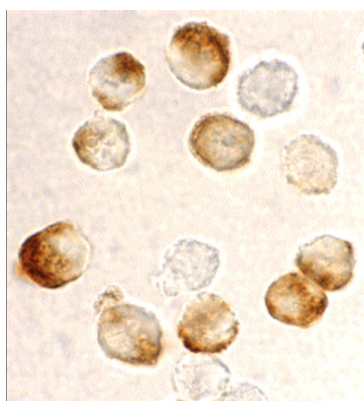
Bioinformation

Database links	GeneID: 3551 Human Swiss-port # O14920 Human
Gene Symbol	IKBKB
Gene Full Name	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta
Background	Nuclear factor kappa B (NF-κB) is a ubiquitous transcription factor and an essential mediator of gene expression during activation of immune and inflammatory responses. NF-κB mediates the expression of a great variety of genes in response to extracellular stimuli including IL-1, TNFα, and bacteria product LPS. NF-κB is associated with IκB proteins in the cell cytoplasm, which inhibit NF-κB activity. The long-sought IκB kinase (IKK), which phosphorylates IκB, and mediates IκB degradation and NF-κB activation, was recently identified by several laboratories. IKK is a serine protein kinase, and the IKK complex contains alpha and beta subunits (IKKα and IKKβ). IKKα and IKKβ interact with each other and both are essential for NF-κB activation. IKKβ phosphorylates both IκB-alpha and IκB-beta. IKKβ is expressed in variety of human tissues.
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 NFκB1, 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. 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. [UniProt]
Highlight	Related Antibody Duos and Panels: ARG30255 IκB alpha degradation Antibody Panel (IKK alpha, IKK beta, IκB alpha) Related products: IKK beta antibodies; IKK beta Duos / Panels; Anti-Rabbit IgG secondary antibodies; Related poster download: The NF-kappa B Pathways.pdf Toll-like Receptor.pdf
Research Area	Cell Biology and Cellular Response antibody; Cell Death antibody; Gene Regulation antibody; Immune System antibody; Signaling Transduction antibody; IκB alpha degradation Study antibody; NF-κB Activation Study antibody
Calculated Mw	87 kDa
PTM	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.



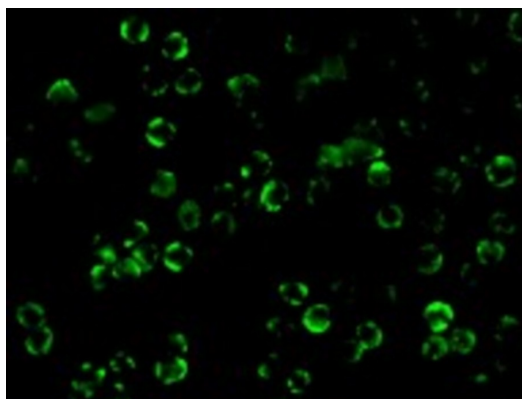
ARG54686 anti-IKK beta antibody WB image

Western blot: 30 μ g of HeLa cell lysates 1) untreated or 2) treated with 5 ng/ml TNF-a for 5 min, stained with ARG54686 anti-IKK beta antibody at 1:500 dilution.



ARG54686 anti-IKK beta antibody ICC/IF image

Immunocytochemistry: HeLa cells stained with ARG54686 anti-IKK beta antibody at 10 μ g/ml.



ARG54686 anti-IKK beta antibody ICC/IF image

Immunofluorescence: HeLa cells stained with ARG54686 anti-IKK beta antibody at 10 μ g/ml.