

Rabbit TBK1 Polyclonal Antibody | anti-TBK1 antibody

Phospho-TBK1 (Ser172) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA31411	Rabbit	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Zebrafish (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Chicken (100%), Xenopus (100%)	Western Blot, Immunohistochemistry, ELISA

PRODUCT SYNONYMS

TBK1; Polyclonal Antibody; Phospho-TBK1 (Ser172) Antibody; EC 2.7.11.1; FLJ11330; FTDALS4; NAK; NF kappa B activating kinase; NF kB activating kinase; NF-kappa-B-activating kinase; Serine/threonine protein kinase TBK 1; Serine/threonine protein kinase TBK1; Serine/threonine-protein kinase TBK1; T2K; TANK binding kinase 1; TANK-binding kinase 1; TBK 1; Tbk1; TBK1_HUMAN; anti-TBK1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Zebrafish (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Chicken (100%), Xenopus (100%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-TBK1 (Ser172) Antibody detects endogenous levels of TBK1 only when phosphorylated at Ser172. Tissue Specificity: Ubiquitous with higher expression in testis. Expressed in the ganglion cells, nerve fiber layer and microvasculature of the retina.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-TBK1 antibody	WB (Western Blot), IHC (Immunohistochemistry), ELISA (Peptide ELISA)
Application Notes	WB: 1:1000-3000 IHC: 1:50-1:200 Peptide ELISA: 1:20,000-1:40,000
Immunogen	A synthesized peptide derived from human TBK1 around the phosphorylation site of Ser172.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Autophosphorylation at Ser-172 activates the kinase, and is an essential step for virus-triggered signaling. Phosphorylated by IKKB/IKK β at Ser-172. Phosphorylation requires homodimerization and ubiquitination at Lys-30 and Lys-401. Dephosphorylated at Ser-172 by PPM1B and this negatively regulates its role in mediating antiviral response. 'Lys-63'-linked polyubiquitination by MIB1 after RNA virus infection, or by NRDP1 after LPS stimulation at Lys-30 and Lys-401, participates in kinase activation. 'Lys-48'-linked polyubiquitination at Lys-670 by DTX4 leads to proteasomal degradation. 'Lys-48'-linked polyubiquitination by TRAP1 also leads to proteasomal degradation. 'Lys-63'-linked polyubiquitination by RNF128 at Lys-30 and Lys-401 leads to the activation of antiviral responses.

Subunit Structure	Homodimer. Interacts with DDX3X, TIRAP and TRAF2. Part of a ternary complex consisting of TANK, TRAF2 and TBK1. Interacts with AZI2, TANK and TBKBP1; these interactions are mutually exclusive and mediate TBK1 activation. Interacts with GSK3B; this interaction promotes TBK1 self-association and autophosphorylation. Interacts with SIKE1; SIKE1 is associated with TBK1 under physiological condition and dissociated from TBK1 upon viral infection or TLR3 stimulation. Interacts with IRF3, leading to IRF3 phosphorylation. Interacts with DDX58/RIG-I. Interacts with CYLD. Interacts with OPTN and TRAF3. Interacts with SRC. Interacts with the exocyst complex subunit SEC5/EXOC2; this interaction is sufficient to trigger TBK1 activity. Interacts with STING1, leading to STING1 phosphorylation. Interacts with IFIT3 (via N-terminus). Interacts with MAVS; interaction only takes place in the presence of IFIT3 and leads to MAVS phosphorylation. Interacts (via protein kinase domain) with TTL12 (via TTL domain); the interaction prevents MAVS binding to TBK1. Interacts with TICAM1; this interaction is enhanced in the presence of WDFY1 and leads to TICAM1 phosphorylation. Interacts with TRIM26. Interacts with TRIM23. Interacts with TTC4 and IKBKE. Interacts with HNRNPA2B1. (Microbial infection) Interacts with Borna disease virus (BDV) P protein leading to its phosphorylation. (Microbial infection) Interacts with Ebola virus protein VP35. (Microbial infection) Interacts with HCV NS3; this interaction leads to inhibition of cellular antiviral response by blocking necessary interactions between the TBK1 and its substrates IRF3 and IRF7. (Microbial infection) Interacts with herpes simplex virus 1 protein ICP34.5.
Similarity	Comprises A N-terminal kinase domain, a ubiquitin-like domain and a C-terminal coiled-coil region mediating homodimerization.Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. I-kappa-B kinase subfamily.
Subcellular Location	Cytoplasm. Note: Upon mitogen stimulation or triggering of the immune system, TBK1 is recruited to the exocyst by EXOC2.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IHC (Immunohistochemistry)

At 1/200 staining Human tonsil 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 antibody.



IHC (Immunohistochemistry)

At 1/200 staining Rat lung 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 antibody.



IHC (Immunohistochemistry)

At 1/100 staining Mouse spleen tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

At 1/200 staining Mouse kidney 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 antibody.



IHC (Immunohistochemistry)

At 1/100 staining Rat brain tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

At 1/100 staining Mouse kidney tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-TBK1 antibody	Serine/threonine kinase that plays an essential role in regulating inflammatory responses to foreign agents. Following activation of toll-like receptors by viral or bacterial components, associates with TRAF3 and TANK and phosphorylates interferon regulatory factors (IRFs) IRF3 and IRF7 as well as DDX3X. This activity allows subsequent homodimerization and nuclear translocation of the IRFs leading to transcriptional activation of pro-inflammatory and antiviral genes including IFNA and IFNB. In order to establish such an antiviral state, TBK1 form several different complexes whose composition depends on the type of cell and cellular stimuli. Plays a key role in IRF3 activation: acts by first phosphorylating innate adapter proteins MAVS, STING1 and TICAM1 on their pLxIS motif, leading to recruitment of IRF3, thereby licensing IRF3 for phosphorylation by TBK1. Phosphorylated IRF3 dissociates from the adapter proteins, dimerizes, and then enters the nucleus to induce expression of interferons. Thus, several scaffolding molecules including FADD, TRADD, MAVS, AZI2, TANK or TBKBP1/SINTBAD can be recruited to the TBK1-containing-complexes. Under particular conditions, functions as a NF-kappa-B effector by phosphorylating NF-kappa-B inhibitor alpha/NFKBIA, IKBKB or RELA to translocate NF-Kappa-B to the nucleus. Restricts bacterial proliferation by phosphorylating the autophagy receptor OPTN/Optineurin on 'Ser-177', thus enhancing LC3 binding affinity and antibacterial autophagy. Phosphorylates SMCR8 component of the C9orf72-SMCR8 complex, promoting autophagosome maturation. Phosphorylates and activates AKT1. Seems to play a role in energy balance regulation by sustaining a state of chronic, low-grade inflammation in obesity, wich leads to a negative impact on insulin sensitivity (By similarity). Attenuates retroviral budding by phosphorylating the endosomal sorting complex required for transport-I (ESCRT-I) subunit VPS37C. Phosphorylates Borna disease virus (BDV) P protein. Plays an essential role in the TLR3- and IFN-dependent control of herpes virus HSV-1 and HSV-2 infections in the central nervous system.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	7019547
NCBI GeneID	29110
NCBI Accession #	NP_037386.1
NCBI GenBank Nucleotide #	NM_013254.3
UniProt Accession #	Q9UHD2; Q8IYV3; Q9NUJ5; A8K4S4
Molecular Weight	84kDa
NCBI Official Full Name	serine/threonine-protein kinase TBK1
NCBI Official Synonym Full Names	TANK-binding kinase 1
NCBI Official Symbol	TBK1
NCBI Official Synonym Symbols	NAK; T2K
NCBI Protein Information	serine/threonine-protein kinase TBK1; NF-kB-activating kinase; NF-kappa-B-activating kinase
UniProt Protein Name	Serine/threonine-protein kinase TBK1
UniProt Gene Name	TBK1
UniProt Synonym Gene Names	NAK
UniProt Entry Name	TBK1_HUMAN

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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Online datasheet: <https://stage.aaabiotech.com/polyclonal/tbk1-antibody-western-blot-immunohistochemistry-peptide-elisa-elisa/31411>