

Anti-TBK1 antibody



Description	Rabbit polyclonal to TBK1.
Model	STJ95926
Host	Rabbit
Reactivity	Human, Mouse
Applications	ELISA, IHC
Immunogen	Synthesized peptide derived from human TBK1 around the non-phosphorylation site of S172.
Immunogen Region	110-190 aa
Gene ID	29110
Gene Symbol	TBK1
Dilution range	IHC 1:100-1:300ELISA 1:40000
Specificity	TBK1 Polyclonal Antibody detects endogenous levels of TBK1 protein.
Tissue Specificity	Ubiquitous with higher expression in testis. Expressed in the ganglion cells, nerve fiber layer and microvasculature of the retina.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Serine/threonine-protein kinase TBK1 NF-kappa-B-activating kinase T2K TANK-binding kinase 1
Molecular Weight	83.642 kDa

Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:11584OMIM:177700
Alternative Names	Serine/threonine-protein kinase TBK1 NF-kappa-B-activating kinase T2K TANK-binding kinase 1
Function	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. 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. Attenuates retroviral budding by phosphorylating the endosomal sorting complex required for transport-I (ESCRT-I) subunit VPS37C . Phosphorylates Borna disease virus (BDV) P protein .
Sequence and Domain Family	Comprises A N-terminal kinase domain, a ubiquitin-like domain and a C-terminal coiled-coil region mediating homodimerization.
Cellular Localization	Cytoplasm. Upon mitogen stimulation or triggering of the immune system, TBK1 is recruited to the exocyst by EXOC2.
Post-translational Modifications	Autophosphorylation at Ser-172 activates the kinase, and is an essential step for virus-triggered signaling. Phosphorylated by IKBKB/IKKB 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 TRAIIP also leads to proteasomal degradation.

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