

**Product Name: NAK/TBK1 (N-term) (1207) Rabbit
Monoclonal Antibody
Catalog #: AMRe14395**



Summary

Production Name	NAK/TBK1 (N-term) (1207) Rabbit Monoclonal Antibody
Description	Rabbit Monoclonal Antibody
Host	Rabbit
Application	WB
Reactivity	Human,Mouse,Rat

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Monoclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Supplied in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% New type preservative N and 0.05% BSA.
Purification	Affinity purification

Immunogen

Gene Name	TBK1 {ECO:0000303 PubMed:10581243, ECO:0000312 HGNC:HGNC:11584}
Alternative Names	NAK; T2K; NF-kappa-B-activating kinase; TANK-binding kinase 1; Serine/threonine-protein kinase TBK1; T2K; TANK binding kinase 1;
Gene ID	29110.0
SwissProt ID	Q9UHD2.Recombinant protein of human TBK1

Application

Dilution Ratio	WB: 1:1000-1:5000
Molecular Weight	84kDa

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Background

The NF-kappa-B (NFKB) complex of proteins is inhibited by I-kappa-B (IKB) proteins, which inactivate NFKB by trapping it in the cytoplasm. Phosphorylation of serine residues on the IKB proteins by IKB kinases marks them for destruction via the ubiquitination pathway, thereby allowing activation and nuclear translocation of the NFKB complex. Serine/threonine kinase that plays an essential role in regulating inflammatory responses to foreign agents (PubMed:[12692549](http://www.uniprot.org/citations/12692549), PubMed:[14703513](http://www.uniprot.org/citations/14703513), PubMed:[18583960](http://www.uniprot.org/citations/18583960), PubMed:[12702806](http://www.uniprot.org/citations/12702806), PubMed:[15367631](http://www.uniprot.org/citations/15367631), PubMed:[10581243](http://www.uniprot.org/citations/10581243), PubMed:[11839743](http://www.uniprot.org/citations/11839743), PubMed:[15485837](http://www.uniprot.org/citations/15485837), PubMed:[21138416](http://www.uniprot.org/citations/21138416), PubMed:[25636800](http://www.uniprot.org/citations/25636800), PubMed:[23453971](http://www.uniprot.org/citations/23453971), PubMed:[23453972](http://www.uniprot.org/citations/23453972), PubMed:[23746807](http://www.uniprot.org/citations/23746807), PubMed:[26611359](http://www.uniprot.org/citations/26611359), PubMed:[32404352](http://www.uniprot.org/citations/32404352)). 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 (PubMed:[12692549](http://www.uniprot.org/citations/12692549), PubMed:[14703513](http://www.uniprot.org/citations/14703513), PubMed:[18583960](http://www.uniprot.org/citations/18583960), PubMed:[12702806](http://www.uniprot.org/citations/12702806), PubMed:[15367631](http://www.uniprot.org/citations/15367631), PubMed:[25636800](http://www.uniprot.org/citations/25636800)). 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 (PubMed:[12702806](http://www.uniprot.org/citations/12702806), PubMed:[15367631](http://www.uniprot.org/citations/15367631), PubMed:[25636800](http://www.uniprot.org/citations/25636800), PubMed:[32972995](http://www.uniprot.org/citations/32972995)). In order to establish such an antiviral state, TBK1 form several different complexes whose composition depends on the type of cell and cellular stimuli (PubMed:[23453971](http://www.uniprot.org/citations/23453971), PubMed:[23453971](http://www.uniprot.org/citations/23453971)).

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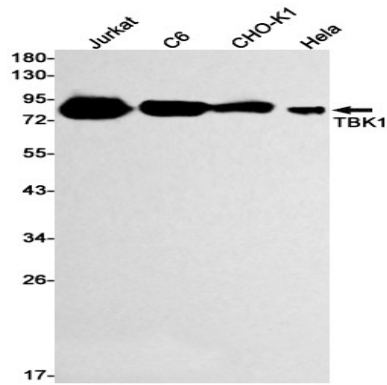


href="http://www.uniprot.org/citations/23453972" target="_blank">23453972, PubMed:23746807). Plays a key role in IRF3 activation: acts by first phosphorylating innate adapter proteins MAVS, STING1 and TICAM1 on their pLxIS motif, leading to recruitment of IRF3, thereby licensing IRF3 for phosphorylation by TBK1 (PubMed:25636800, PubMed:30842653). Phosphorylated IRF3 dissociates from the adapter proteins, dimerizes, and then enters the nucleus to induce expression of interferons (PubMed:25636800). Thus, several scaffolding molecules including FADD, TRADD, MAVS, AZI2, TANK or TBKBP1/SINTBAD can be recruited to the TBK1- containing-complexes (PubMed:21931631). 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 (PubMed:10783893, PubMed:15489227). Restricts bacterial proliferation by phosphorylating the autophagy receptor OPTN/Optineurin on 'Ser-177', thus enhancing LC3 binding affinity and antibacterial autophagy (PubMed:21617041). Phosphorylates SMCR8 component of the C9orf72-SMCR8 complex, promoting autophagosome maturation (PubMed:27103069). Phosphorylates and activates AKT1 (PubMed:21464307). 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 (PubMed:21270402). Phosphorylates Borna disease virus (BDV) P protein (PubMed:16155125). 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 (PubMed:22851595).

Research Area

Image Data

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Western blot detection of NAK/TBK1 in Jurkat,C6,CHO-K1,HeLa cell lysates using NAK/TBK1 antibody(1:1000 diluted).

Note

For research use only.