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Mouse Tbk1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP17321a

Specification

Mouse Tbk1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q9WUN2

Mouse Tbk1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 56480

Other Names
Serine/threonine-protein kinase TBK1, T2K, TANK-binding kinase 1, Tbk1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Tbk1 Antibody (N-term) Blocking Peptide - Protein Information

Name Tbk1 {ECO:0000303|PubMed:10581243, ECO:0000312|MGI:MGI:1929658}

Function
Serine/threonine kinase that plays an essential role in regulating inflammatory responses to foreign agents (PubMed:10581243, PubMed:15210742, PubMed:15661922). 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 (By similarity). 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 (By similarity). In order to establish such an antiviral state, TBK1 form several different complexes whose composition depends on the type of cell and cellular stimuli (By similarity). Thus, several scaffolding molecules including FADD, TRADD, MAVS, AZI2, TANK or TBKBP1/SINTBAD can be recruited to the TBK1-containing-complexes (By similarity). 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 (By similarity). 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 (By similarity). Restricts bacterial proliferation by phosphorylating the autophagy receptor OPTN/Optineurin on 'Ser-177',

thus enhancing LC3 binding affinity and antibacterial autophagy (By similarity). Phosphorylates SMCR8 component of the C9orf72-SMCR8 complex, promoting autophagosome maturation (By similarity). Phosphorylates ATG8 proteins MAP1LC3C and GABARAPL2, thereby preventing their delipidation and premature removal from nascent autophagosomes (By similarity). Phosphorylates and activates AKT1 (By similarity). 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 (PubMed:23396211).

Cellular Location
Cytoplasm {ECO:0000250|UniProtKB:Q9UHD2}. Note=Upon mitogen stimulation or triggering of the immune system, TBK1 is recruited to the exocyst by EXOC2. {ECO:0000250|UniProtKB:Q9UHD2}

Mouse Tbk1 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

Mouse Tbk1 Antibody (N-term) Blocking Peptide - Images

Mouse Tbk1 Antibody (N-term) Blocking Peptide - Background

Serine/threonine protein involved in the signaling cascade converging to the activation of the transcription factor NF-kappa-B. May function as an IKK kinase, playing an essential role in the transcription of a subset of a TNF-alpha-induced genes. Also mediates production of RANTES/CCL5 and interferon-beta/IFNB1. Has a pivotal role in the innate immune response. Phosphorylates and activates IRF3 and IRF7 and allows their nuclear localization. This leads to production of alpha/beta interferons and the development of a cellular antiviral state. It also seems to be a central factor in the induction of the antiviral interferon response.

Mouse Tbk1 Antibody (N-term) Blocking Peptide - References

Parvatiyar, K., et al. J. Biol. Chem. 285(20):14999-15009(2010)Watanabe, T., et al. J. Clin. Invest. 120(5):1645-1662(2010)Gabhann, J.N., et al. J. Immunol. 184(5):2314-2320(2010)Munoz, M.C., et al. J. Endocrinol. 201(2):185-197(2009)Miyahira, A.K., et al. J. Immunol. 182(4):2248-2257(2009)