

Recombinant Mouse Tbk1 Protein, C-Myc/DDK-tagged

Product Information

Cat	IMP-7288
Official Symbol	TBK1
Product Overview	Purified recombinant protein of Mouse TANK-binding kinase 1 (Tbk1), with C-terminal Myc/DDK tag, expressed in HEK293T cells.
Description	<p>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, TMEM173/STING 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 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).[UniProtKB/Swiss-Prot Function]</p>
Expression System	HEK293T
Species	Mouse
Tag	C-Myc/DDK
Form	25mM Tris.HCl, pH 7.3, 100mM glycine, 10% glycerol
Molecular Mass	83.4 kDa
AA Sequence	MQSTSNHLWLLSDILGQGATANVFRGRHKKKTGDLYAVKVFNNISFLRPVD VQMREFEVLKKNLHNKIVKLF AIEEETTTRHKV LIMEFCPCGSLYTVLEEPS

NAYGLPESEFLIVLRDVVGGMNHLRENGIVHRDIKPGNIMRVIGEDGQSV
YKLTDFGAARELEDDEQFVSLYGTEEYLHPDMYERAVLRKDHQKKYGAT
VDLWSVGVTFYHAATGSLPFRPFEGPRRNKEVMYKIITGKPSGAISGVQK
AENGPIDWSGDMPLSCSLSQGLQALLTPVLANILEADQEKCWGFDQFFA
ETSDVLHRMVIHVFSLQHMTAHKIYIHSYNTAAVFHEL VYKQTKIVSSNQE
LIYEGRRLVLELGRLAQHFPKTTEENPIFVTSREQLN TVGLRYEKISLPKIH
PRYDLGDASMAKAVTGVVVCYACRTASTLLLYQELMRKGV RWLVLVKD
DYNETHVHKKTEVVITLDFCIRNIEKTVKVYEKLMKVNLEAAELGEISDIHTKL
LRLSSSQGTIESSLQDISSRLSPGGLLADTWAHQEGTHPRDRNVEKLQVL
LNCITEIYYQFKKDKAERRLAYNEEQIHKFDKQKLYYHATKAMSHFSEECV
RKYEAFKDKSEEWMRKMLHLRKQLLSLTNQCDFIEEEVSKYQDYTNELQ
ETLPQKMLAASGGVKHAMAPIYSSNTLVEMTLGMKKLKEEMEGVVKEL
AENNHILERFGSLTMDGGLRNV DCLTRTRPLEQKLISEEDLAANDILDYKD
DDDKV

Purity

> 80% as determined by SDS-PAGE and Coomassie blue staining.

Storage

Store at -80 centigrade after receiving vials. Stability: Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.

Concentration

> 50 µg/mL as determined by microplate BCA method.