

Recombinant Mouse Mapkapk3 Protein, MYC/DDK-tagged

Cat. No. Mapkapk3-216M Lot. No. (See product label)

SPECIFICATION

Product Overview Purified recombinant protein of full-length mouse mitogen-activated protein kinase-activated protein kinase 3 (Mapkapk3), with C-terminal MYC/DDK tag, expressed in HEK293T cells.

Species Mouse

Source HEK293

Description Stress-activated serine/threonine-protein kinase involved in cytokines production, endocytosis, cell migration, chromatin remodeling and transcriptional regulation. Following stress, it is phosphorylated and activated by MAP kinase p38-alpha/MAPK14, leading to phosphorylation of substrates. Phosphorylates serine in the peptide sequence, Hyd-X-R-X2-S, where Hyd is a large hydrophobic residue. MAPKAPK2 and MAPKAPK3, share the same function and substrate specificity, but MAPKAPK3 kinase activity and level in protein expression are lower compared to MAPKAPK2. Phosphorylates HSP27/HSPB1, KRT18, KRT20, RCSD1, RPS6KA3, TAB3 and TTP/ZFP36. Mediates phosphorylation of HSP27/HSPB1 in response to stress, leading to dissociate HSP27/HSPB1 from large small heat-shock protein (sHsps) oligomers and impair their chaperone activities and ability to protect against oxidative stress effectively. Involved in inflammatory response by regulating tumor necrosis factor (TNF) and IL6 production post-transcriptionally: acts by phosphorylating AU-rich elements (AREs)-binding proteins, such as TTP/ZFP36, leading to regulate the stability and translation of TNF and IL6 mRNAs. Phosphorylation of TTP/ZFP36, a major post-transcriptional regulator of TNF,

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promotes its binding to 14-3-3 proteins and reduces its ARE mRNA affinity leading to inhibition of dependent degradation of ARE-containing transcript. Involved in toll-like receptor signaling pathway (TLR) in dendritic cells: required for acute TLR-induced macropinocytosis by phosphorylating and activating RPS6KA3. Also acts as a modulator of Polycomb-mediated repression.

Molecular Mass 43.3 kDa

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

Stability Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.

Storage Store at -80 centigrade after receiving vials.

Concentration >50 ug/mL as determined by microplate BCA method

Storage Buffer 25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name [Mapkapk3 mitogen-activated protein kinase-activated protein kinase 3 \[Mus musculus \(house mouse\) \]](#)

Official Symbol [Mapkapk3](#)

Synonyms Mapkapk3; mitogen-activated protein kinase-activated protein kinase 3; 3PK; MK3; MK-3; MAPKAP3; AI874665; MAPKAP-K3; MapkKapk3; MAP kinase-activated protein kinase 3; MAPK-activated protein kinase 3; MAPKAP kinase 3; MAPKAPK-3; EC 2.7.11.1

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Gene ID	102626
mRNA Refseq	NM_178907
Protein Refseq	NP_849238
UniProt ID	Q3UMW7

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