

MAPKAPK3 Protein, Human (sf9, GST)

Cat. No.:	HY-P74763
Synonyms:	MAP kinase-activated protein kinase 3; MAPKAPK-3; MK-3; Chromosome 3p kinase
Species:	Human
Source:	Sf9 insect cells
Accession:	Q16644 (M1-Q382)
Gene ID:	7867
Molecular Weight:	Approximately 69 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 50 mM Tris, 100 mM NaCl, pH 7.5, 0.25 mM DTT, 0.1 mM EDTA, 0.5 mM PMSF, 10% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background

MAPKAPK3 protein is a stress-activated serine/threonine-protein kinase with a diverse role in cellular processes, including cytokine production, endocytosis, cell migration, chromatin remodeling, and transcriptional regulation. Upon exposure to stress, MAPKAPK3 is phosphorylated and activated by MAP kinase p38-alpha/MAPK14, resulting in the phosphorylation of specific substrates. Sharing functional similarity and substrate specificity with MAPKAPK2, MAPKAPK3 exhibits lower kinase activity and protein expression levels. It phosphorylates key proteins like HSP27/HSPB1, KRT18, KRT20, RCSD1, RPS6KA3, TAB3, and TTP/ZFP36. In response to stress, MAPKAPK3 mediates the phosphorylation of HSP27/HSPB1, leading to the dissociation of HSP27/HSPB1 from large small heat-shock protein (sHsps) oligomers and impairing their chaperone activities. Notably, MAPKAPK3 plays a role in the inflammatory response by post-transcriptionally regulating TNF and IL6 production. It achieves this by phosphorylating AU-rich element (AREs)-binding proteins, such as TTP/ZFP36, influencing the stability and translation of TNF and IL6 mRNAs. Additionally, MAPKAPK3 is involved in the toll-like receptor signaling pathway in dendritic cells, contributing to acute TLR-induced macropinocytosis. Furthermore, it acts as a modulator of Polycomb-mediated repression, adding another layer to its regulatory functions in cellular processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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