

Recombinant MAPKAPK3 protein

Catalog No: 81366, 81666

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.25 µg/µl

Source: Human

Buffer Contents: Recombinant MAPKAPK3 protein is supplied in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100, and 0.5 mM TCEP.

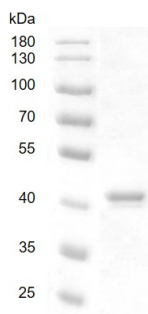
Background: MAPKAPK3 (MAPK Activated Protein Kinase 3) is a mitogen-activated protein kinase (MAP kinase)-activated protein kinase which involved in cytokines production, endocytosis, cell migration, chromatin remodeling and transcriptional regulation. Following stress, it is phosphorylated and activated by MAP kinase p38- α /MAPK14, which leading to phosphorylation of substrates. MAPKAPK3 phosphorylates serine in the peptide sequence, Hyd-X-RX(2)-S, where Hyd is a large hydrophobic residue and 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. It 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, and promotes its binding to 14-3-3 proteins and reduces its ARE mRNA affinity leading to inhibition of dependent degradation of ARE-containing transcript. It involved in toll-like receptor signaling pathway (TLR) in dendritic cells: required for acute TLR-induced macropinocytosis by phosphorylating and activating RPS6KA3 and also acts as a modulator of Polycomb-mediated repression. Diseases associated with MAPKAPK3 include Macular Dystrophy, Patterned, 3 and Bacteremia 2.

Protein Details: Recombinant MAPKAPK3 protein was expressed in baculovirus expression system as the full length protein (accession number NP_001230854.1) with a N-terminal FLAG tag. The molecular weight of the protein is 44 kDa

Application Notes: This product was manufactured as described in Protein Details. Where possible, Active Motif has developed functional or activity assays for recombinant proteins. Additional characterization such as enzyme kinetic activity assays, inhibitor screening or other biological activity assays may not have been performed for every product. All available data for a given product is shown on the lot-specific Technical Data Sheet.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of arrival.

MAPKAPK3



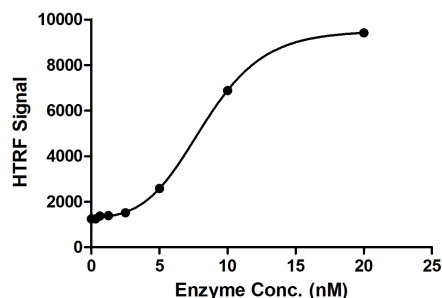
Recombinant MAPKAPK3 protein

10% SDS-PAGE with Coomassie blue staining

MW: 44 kDa

Purity: >90%

MAPKAPK3 Titration



HTRF assay for MAPKAPK3 activity

1 μ M STK S1 substrate was incubated with different concentrations of MAPKAPK3 protein in a 10 μ l reaction system containing 1 \times Enzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, and 100 μ M ATP for 1 hour. Then 10 μ l detection reagents containing STK antibody (1:2) and SA-XL665 (1:100) diluted with 1 \times Detection Buffer were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.