

Mouse Mapkapk2 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP14921a**Specification**

Mouse Mapkapk2 Antibody (N-term) Blocking Peptide - Product InformationPrimary Accession [P49138](#)**Mouse Mapkapk2 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 17164**Other Names**

MAP kinase-activated protein kinase 2, MAPK-activated protein kinase 2, MAPKAP kinase 2, MAPKAP-K2, MAPKAPK-2, MK-2, MK2, Mapkapk2, Rps6kc1

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 Mapkapk2 Antibody (N-term) Blocking Peptide - Protein Information**Name** Mapkapk2**Synonyms** Rps6kc1**Function**

Stress-activated serine/threonine-protein kinase involved in cytokine production, endocytosis, reorganization of the cytoskeleton, cell migration, cell cycle control, chromatin remodeling, DNA damage response 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-X(2)-S, where Hyd is a large hydrophobic residue. Phosphorylates ALOX5, CDC25B, CDC25C, CEP131, ELAVL1, HNRNPA0, HSP27/HSPB1, KRT18, KRT20, LIMK1, LSP1, PABPC1, PARN, PDE4A, RCSD1, RPS6KA3, TAB3 and TTP/ZFP36. Phosphorylates HSF1; leading to the interaction with HSP90 proteins and inhibiting HSF1 homotrimerization, DNA-binding and transactivation activities (By similarity). Mediates phosphorylation of HSP27/HSPB1 in response to stress, leading to dissociation of HSP27/HSPB1 from large small heat-shock protein (sHsps) oligomers and impairment of 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 ELAVL1, HNRNPA0, PABPC1 and TTP/ZFP36, leading to regulation of the stability and translation of TNF and IL6 mRNAs.

Phosphorylation of TTP/ZFP36, a major post-transcriptional regulator of TNF, promotes its binding to 14-3-3 proteins and reduces its ARE mRNA affinity leading to inhibition of dependent degradation of ARE- containing transcripts. Phosphorylates CEP131 in response to cellular stress following ultraviolet irradiation which promotes binding of CEP131 to 14-3-3 proteins and inhibits formation of novel centriolar satellites (By similarity). Also involved in late G2/M checkpoint following DNA damage through a process of post-transcriptional mRNA stabilization: following DNA damage, relocalizes from nucleus to cytoplasm and phosphorylates HNRNPA0 and PARN, leading to stabilization of GADD45A mRNA. Involved in toll-like receptor signaling pathway (TLR) in dendritic cells: required for acute TLR-induced macropinocytosis by phosphorylating and activating RPS6KA3.

Cellular Location

Cytoplasm. Nucleus. Note=Phosphorylation and subsequent activation releases the autoinhibitory helix, resulting in the export from the nucleus into the cytoplasm

Tissue Location

Ubiquitously expressed (at protein level).

Mouse Mapkapk2 Antibody (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

Mouse Mapkapk2 Antibody (N-term) Blocking Peptide - Images**Mouse Mapkapk2 Antibody (N-term) Blocking Peptide - Background**

Its physiological substrate seems to be the small heat shock protein (HSP27/HSP25). In vitro can phosphorylate glycogen synthase at 'Ser-7' and tyrosine hydroxylase (on 'Ser-19' and 'Ser-40'). This kinase phosphorylates Ser in the peptide sequence, Hyd-X-R-X(2)-S, where Hyd is a large hydrophobic residue. Mediates both ERK and p38 MAPK/MAPK14 dependent neutrophil responses. Participates in TNF alpha-stimulated exocytosis of secretory vesicles in neutrophils. Plays a role in phagocytosis-induced respiratory burst activity (By similarity).

Mouse Mapkapk2 Antibody (N-term) Blocking Peptide - References

Menon, M.B., et al. J. Biol. Chem. 285(43):33242-33251(2010)Ghasemlou, N., et al. J. Neurosci. 30(41):13750-13759(2010)Marchese, F.P., et al. J. Biol. Chem. 285(36):27590-27600(2010)Gong, X., et al. J. Cell. Biochem. 110(6):1420-1429(2010)Yuan, J., et al. PLoS ONE 5 (6), E11247 (2010) :