

MAPKAPK3 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP7998a**Specification**

MAPKAPK3 Antibody (N-term) Blocking Peptide - Product InformationPrimary Accession [Q16644](#)**MAPKAPK3 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 7867**Other Names**

MAP kinase-activated protein kinase 3, MAPK-activated protein kinase 3, MAPKAP kinase 3, MAPKAP-K3, MAPKAPK-3, MK-3, Chromosome 3p kinase, 3pK, MAPKAPK3

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP7998a](/products/AP7998a) was selected from the N-term region of human MAPKAPK3. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

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.

MAPKAPK3 Antibody (N-term) Blocking Peptide - Protein Information**Name** MAPKAPK3**Function**

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-X(2)-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, 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.

Cellular Location

Nucleus. Cytoplasm. Note=Predominantly located in the nucleus, when activated it translocates to the cytoplasm

Tissue Location

Widely expressed, with a higher expression level observed in heart and skeletal muscle. No expression in brain Expressed in the retinal pigment epithelium (PubMed:26744326)

MAPKAPK3 Antibody (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

MAPKAPK3 Antibody (N-term) Blocking Peptide - Images**MAPKAPK3 Antibody (N-term) Blocking Peptide - Background**

MAPKAPK3 is a member of the Ser/Thr protein kinase family. This kinase functions as a mitogen-activated protein kinase (MAP kinase)- activated protein kinase. MAP kinases are also known as extracellular signal-regulated kinases (ERKs), act as an integration point for multiple biochemical signals. This protein was shown to be activated by growth inducers and stress stimulation of cells. In vitro studies demonstrated that ERK, p38 MAP kinase and Jun N-terminal kinase were all able to phosphorylate and activate this kinase, which suggested the role of this kinase as an integrative element of signaling in both mitogen and stress responses. The protein was reported to interact with, phosphorylate and repress the activity of E47, which is a basic helix-loop-helix transcription factor known to be involved in the regulation of tissue-specific gene expression and cell differentiation.

MAPKAPK3 Antibody (N-term) Blocking Peptide - References

McLaughlin M.M., Kumar S.J. Biol. Chem. 271:8488-8492(1996) Neufeld B., Grosse-Wilde A.J. Biol. Chem. 275:20239-20242(2000) Voncken J.W., Niessen H.J. Biol. Chem. 280:5178-5187(2005)