

**MAPKAPK-2 Antibody**  
**Rabbit Polyclonal Antibody**  
**Catalog # ABV10077****Specification**

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**MAPKAPK-2 Antibody - Product Information**

Application	WB, IP
Primary Accession	<a href="#">P49137</a>
Reactivity	Human, Mouse, Rat, Bovine, Dog
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	45568

**MAPKAPK-2 Antibody - Additional Information****Gene ID** 9261**Application & Usage**

Western blot analysis (0.5-4 µg/ml) and immunoprecipitation. However, the optimal conditions should be determined individually. The affinity purified antibody detects both 43 and 60 kDa isoforms, corresponding to the apparent molecular mass of MAPKAPK-2 on SDS-PAGE immunoblots. These 43 kDa and 60 kDa bands can be specifically inhibited by the relevant peptide.

**Other Names**

MAPKAPK2, MK2

**Target/Specificity**

MAPKAPK-2

**Antibody Form**

Liquid

**Appearance**

Colorless liquid

**Formulation**

100 µg (0.5 mg/ml) affinity purified rabbit anti-MAPKAPK-2 polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 0.01% thimerosal.

**Handling**

The antibody solution should be gently mixed before use.

**Reconstitution & Storage**

-20 °C

## Background Descriptions

### Precautions

MAPKAPK-2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## MAPKAPK-2 Antibody - Protein Information

**Name** MAPKAPK2

### 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 (PubMed:<a href="http://www.uniprot.org/citations/16278218" target="\_blank">16278218</a>). Mediates phosphorylation of HSP27/HSPB1 in response to stress, leading to the 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 the 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 induced by ultraviolet irradiation which promotes binding of CEP131 to 14-3-3 proteins and inhibits formation of novel centriolar satellites (PubMed:<a href="http://www.uniprot.org/citations/26616734" target="\_blank">26616734</a>). 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

Expressed in all tissues examined.

## MAPKAPK-2 Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)

- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **MAPKAPK-2 Antibody - Images**

### **MAPKAPK-2 Antibody - Background**

MAP kinase-activated protein kinase-2 (MAPKAPK-2), also known as p45 hsp27 kinase, is a 45-54 kDa serine-threonine protein kinase that contains a proline rich sequence and two putative SH3-binding sites. MAPKAPK-2 is activated in response to stress, IL-1 and TNF, possibly catalyzed by p38/Hog-dependent phosphorylation. One of the major substrates of MAPKAPK-2 is hsp27, which stimulates actin polymerization in order to facilitate recovery from destruction of cytoskeleton during cellular stresses. Two isoforms are produced due to alternative splicing of the same gene which differs in their C-terminals. This antibody recognizes both isoforms.