

**Anti-MAPKAP Kinase 2 (RABBIT) Antibody**  
**MAPKAP Kinase 2 Antibody**  
**Catalog # ASR5188**

**Specification**

---

**Anti-MAPKAP Kinase 2 (RABBIT) Antibody - Product Information**

Host	Rabbit
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Polyclonal
Application	WB, IHC, E, IP, I, LCI
Application Note	Anti-MAPKAP kinase 2 antibody is tested by western blotting and suitable for ELISA, immunoprecipitation and kinase assays. Although not tested, this antibody is likely functional in immunohistochemistry and other immunological methods. The antibody detects a single 44 kDa protein in crude extracts prepared either from unstimulated (p/n w09-000-364) or TNF $\alpha$ stimulated ((p/n w09-000-367) human HeLa cell lysates. A 1:15,000 dilution is recommended for ELISA. The researcher should determine optimal titers for other applications.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	This antibody was affinity purified from whole rabbit serum prepared by repeated immunizations with a synthetic peptide corresponding to an internal region of rabbit MAPKAP Kinase 2 conjugated to KLH using maleimide. A terminal cysteine residue was added to facilitate coupling.
Preservative	0.01% (w/v) Sodium Azide

**Anti-MAPKAP Kinase 2 (RABBIT) Antibody - Additional Information**

**Gene ID** 9261

**Other Names**  
9261

**Purity**

This affinity-purified antibody is directed against rabbit MAPKAP Kinase 2 and is useful in determining its presence in various assays. This polyclonal anti-MAPKAP Kinase 2 antibody recognizes native and over-expressed protein found in various tissues and extracts. This sequence is conserved 100% in human, mouse, rabbit, rat, hamster, chicken, Xenopus and

zebrafish. Cross reactivity with MAPKAP Kinase 2 from other sources has not been tested.

### Storage Condition

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

### Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

## Anti-MAPKAP Kinase 2 (RABBIT) 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

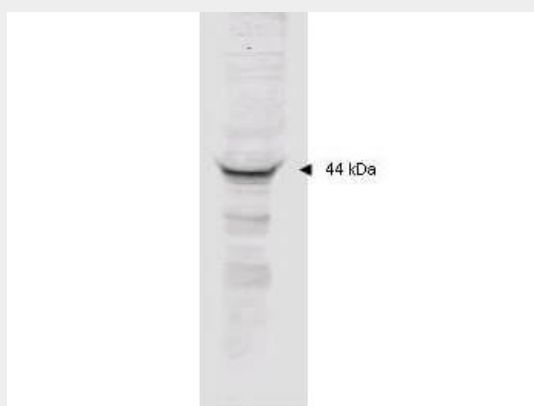
Expressed in all tissues examined.

## Anti-MAPKAP Kinase 2 (RABBIT) 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](#)

#### **Anti-MAPKAP Kinase 2 (RABBIT) Antibody - Images**



Affinity purified anti-MAPKAP Kinase 2 polyclonal antibody detects MK2 in unstimulated human HeLa whole cell lysate by western blot. Polyclonal rabbit-anti-MAPKAP Kinase 2 used at a 1:2000 dilution to detect 20 ug of whole cell lysate containing MK2. This antibody detects a single 44 kDa protein as indicated in crude extracts prepared from unstimulated human HeLa cell lysates. A 4-20% gradient gel was used to separate the protein by SDS-PAGE. The protein was transferred to nitrocellulose using standard methods. After blocking the membrane was probed with the primary antibody for 1 h at room temperature followed by washes and reaction with a 1:5,000 dilution of IRDye™ 800 conjugated Gt-a-Rabbit IgG [H&L] (code 611-132-122) for 30 min at room temperature. LICOR's Odyssey® Infrared Imaging System was used to scan and process the image. Other detection systems will yield similar results.

#### **Anti-MAPKAP Kinase 2 (RABBIT) Antibody - Background**

MAPKAP kinase-2 (or MK2) is an acronym for mitogen-activated protein kinase-activated protein kinase-2. This enzyme is phosphorylated and activated by Erks and p38 MAPK in vitro. While multiple residues of MK2 are phosphorylated in vivo in response to stress, only four of the residues Thr25, Thr222, Ser272 and Thr334 are phosphorylated by p38 in an in vitro kinase assay. MK2 is serine-threonine protein kinase that contains a proline rich sequence and two putative SH3-binding sites. MK2 phosphorylates downstream components on a consensus Pro-X-Ser/Thr-Pro motif. The best-characterized MK2 substrate is hsp27. Although unknown, the physiological function of MK2 may be to increase stress resistance. MK2 is an essential component in the inflammatory response that regulates biosynthesis of TNF $\alpha$  at a post-transcriptional level and MK2 is rapidly phosphorylated and activated in response to cytokines, stress and chemotactic factors.