10320 Camino Santa Fe, Suite G
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MK2 / MAPKAPK2 Antibody (internal region, near C-Term)

Peptide-affinity purified goat antibody
Catalog # AF3925a

Specification

MK2 / MAPKAPK2 Antibody (internal region, near C-Term) - Product Information

Application	**WB, IP, E**
Primary Accession	P49137
Other Accession	NP_004750.1, NP_116584.2, 9261, 17164 (mouse), 289014 (rat)
Reactivity	**Mouse**
Predicted	**Human, Rat, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**45568**

MK2 / MAPKAPK2 Antibody (internal region, near C-Term) - Additional Information

Gene ID 9261

Other Names
MAP kinase-activated protein kinase 2, MAPK-activated protein kinase 2, MAPKAP kinase 2, MAPKAP-K2, MAPKAPK-2, MK-2, MK2, 2.7.11.1, MAPKAPK2

Dilution
WB~~1:1000
IP~~N/A
E~~N/A

Format
0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
MK2 / MAPKAPK2 Antibody (internal region, near C-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

MK2 / MAPKAPK2 Antibody (internal region, near C-Term) - 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:16278218). 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:26616734). 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.

MK2 / MAPKAPK2 Antibody (internal region, near C-Term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

MK2 / MAPKAPK2 Antibody (internal region, near C-Term) - Images

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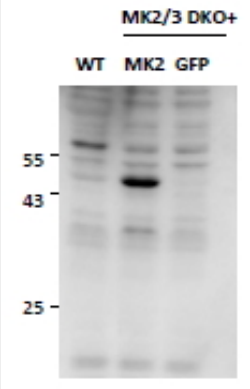
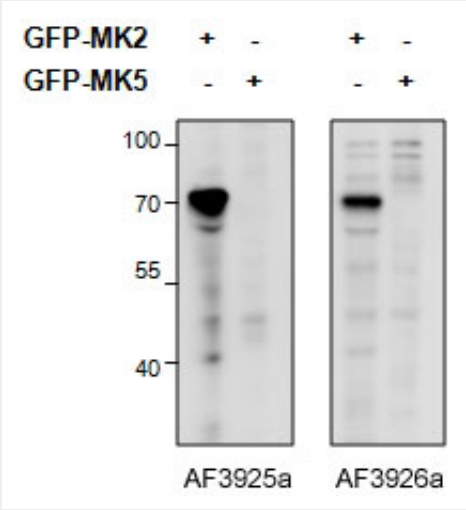
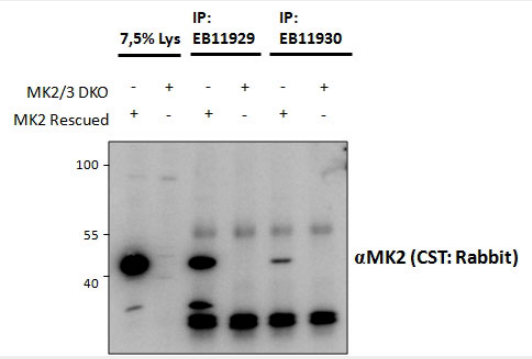


AF3925a (0.5 µg/ml) staining of MEF lysates (35 µg protein in RIPA buffer), from double KO mice in second and third lanes and rescued by introduction of MK2 gene in second lane. Primary incubation was 2 hour. Detected by chemiluminescence.



HEK293 overexpressing Mouse MK2 fused to GFP or overexpressing MK5 fused to GFP and probed with AF3925a (0.5ug/ml) in the left panel and with AF3926a (0.5ug/ml) in the right panel.



AF3925a and AF3926a (1.5ug) immunoprecipitations from lysates of MK2/MK3 double knockout MEFs, with (third and fifth lanes) and without (fourth and sixth lanes) rescued MK2 expression through retroviral transduction. The corresponding lysates (first and second lane resp.) were analyzed in parallel in this Western blot labelled with rabbit anti-MK2.

MK2 / MAPKAPK2 Antibody (internal region, near C-Term) - Background

This antibody is expected to recognize both reported isoforms (NP_004750.1; NP_116584.2).

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MK2 / MAPKAPK2 Antibody (internal region, near C-Term) - References

A cytosolic ATM/NEMO/RIP1 complex recruits TAK1 to mediate the NF-kappaB and p38 mitogen-activated protein kinase (MAPK)/MAPK-activated protein 2 responses to DNA damage. Yang Y, Xia F, Hermance N, Mabb A, Simonson S, Morrissey S, Gandhi P, Munson M, Miyamoto S, Kelliher MA. Mol Cell Biol. 2011 Jul;31(14):2774-86 PMID: 21606198