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MK5 / MAPKAPK5 (aa192-206) Antibody (internal region)

Peptide-affinity purified goat antibody
Catalog # AF3924a

Specification

MK5 / MAPKAPK5 (aa192-206) Antibody (internal region) - Product Information

Application	**WB, IP, IHC**
Primary Accession	Q8IW41
Other Accession	NP_003659.2, NP_620777.1, 8550, 17165 (mouse), 498183 (rat)
Reactivity	**Human, Mouse**
Predicted	**Rat, Pig, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**54220**

MK5 / MAPKAPK5 (aa192-206) Antibody (internal region) - Additional Information

Gene ID 8550

Other Names
MAP kinase-activated protein kinase 5, MAPK-activated protein kinase 5, MAPKAP kinase 5, MAPKAP-K5, MAPKAPK-5, MK-5, MK5, 2.7.11.1, p38-regulated/activated protein kinase, PRAK, MAPKAPK5, PRAK

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
MK5 / MAPKAPK5 (aa192-206) Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

MK5 / MAPKAPK5 (aa192-206) Antibody (internal region) - Protein Information

Name MAPKAPK5

Synonyms PRAK

Function
Tumor suppressor serine/threonine-protein kinase involved in mTORC1 signaling and post-transcriptional regulation. Phosphorylates FOXO3, ERK3/MAPK6, ERK4/MAPK4, HSP27/HSPB1,

p53/TP53 and RHEB. Acts as a tumor suppressor by mediating Ras-induced senescence and phosphorylating p53/TP53. Involved in post-transcriptional regulation of MYC by mediating phosphorylation of FOXO3: phosphorylation of FOXO3 leads to promote nuclear localization of FOXO3, enabling expression of miR-34b and miR-34c, 2 post-transcriptional regulators of MYC that bind to the 3'UTR of MYC transcript and prevent MYC translation. Acts as a negative regulator of mTORC1 signaling by mediating phosphorylation and inhibition of RHEB. Part of the atypical MAPK signaling via its interaction with ERK3/MAPK6 or ERK4/MAPK4: the precise role of the complex formed with ERK3/MAPK6 or ERK4/MAPK4 is still unclear, but the complex follows a complex set of phosphorylation events: upon interaction with atypical MAPK (ERK3/MAPK6 or ERK4/MAPK4), ERK3/MAPK6 (or ERK4/MAPK4) is phosphorylated and then mediates phosphorylation and activation of MAPKAPK5, which in turn phosphorylates ERK3/MAPK6 (or ERK4/MAPK4). Mediates phosphorylation of HSP27/HSPB1 in response to PKA/PRKACA stimulation, inducing F-actin rearrangement.

Cellular Location
Cytoplasm. Nucleus. Note=Translocates to the cytoplasm following phosphorylation and activation. Interaction with ERK3/MAPK6 or ERK4/MAPK4 and phosphorylation at Thr-182, activates the protein kinase activity, followed by translocation to the cytoplasm Phosphorylation by PKA/PRKACA at Ser-115 also induces nuclear export

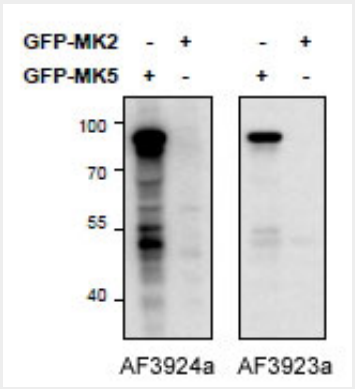
Tissue Location
Expressed ubiquitously.

MK5 / MAPKAPK5 (aa192-206) Antibody (internal region) - 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

MK5 / MAPKAPK5 (aa192-206) Antibody (internal region) - Images



HEK293 lysate (10ug protein in RIPA buffer) overexpressing Mouse MK5-GFP (first lane) or Mouse MK2-GFP (second lane) probed with AF3923a (0.5ug/ml) in right panel and with AF3924a (0.5ug/ml) on left panel, Primary incubations were for 2 hours. Detected by chemiluminescence.

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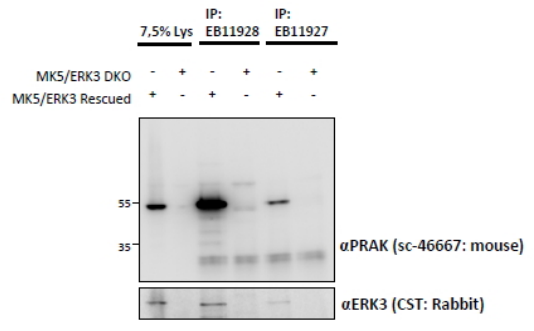
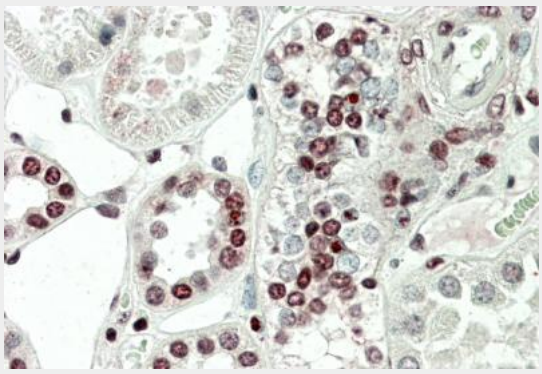


AF3923a and AF3924a (1.5ug) immunoprecipitations from lysates of MK5/ERK3 double knockout MEFs, with (third and fifth lanes) and without (fourth and sixth lanes) rescued MK5/ERK3 expression through retroviral transduction. The corresponding lysates (first and second lane resp.) were analyzed in parallel in this Western blot labelled with mouse anti-MK5 / PRAK (and co-precipitation was measured using rabbit anti-ERK3 in the lower panel).



AF3923a (5 µg/ml) staining of paraffin embedded Human Kidney. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

MK5 / MAPKAPK5 (aa192-206) Antibody (internal region) - References

A novel function of p38-regulated/activated kinase in endothelial cell migration and tumor angiogenesis. Yoshizuka N, Chen RM, Xu Z, Liao R, Hong L, Hu WY, Yu G, Han J, Chen L, Sun P. Mol Cell Biol. 2012 Feb;32(3):606-18. PMID: 22124154