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KD-Validated Anti-MAPK activated protein kinase 2 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1254

Specification

KD-Validated Anti-MAPK activated protein kinase 2 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	P49137
Reactivity	**Human**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 46 kDa ; Observed, 46 kDa KDa**
Gene Name	**MAPKAPK2**
Aliases	**MAPKAPK2; MAPK Activated Protein Kinase 2; MK2; Mitogen-Activated Protein Kinase-Activated Protein Kinase 2; MAP Kinase-Activated Protein Kinase 2; MAPKAP Kinase 2; EC 2.7.11.1; MAPKAP-K2; MK-2; MAPK-Activated Protein Kinase 2; MAPKAPK-2; EC 2.7.11**
Immunogen	**A synthesized peptide derived from human MAPKAP Kinase 2**

KD-Validated Anti-MAPK activated protein kinase 2 Rabbit Monoclonal Antibody - 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

KD-Validated Anti-MAPK activated protein kinase 2 Rabbit Monoclonal 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: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

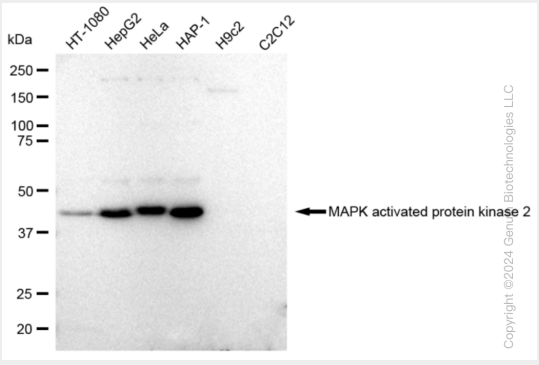
Tissue Location
Expressed in all tissues examined.

KD-Validated Anti-MAPK activated protein kinase 2 Rabbit Monoclonal 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 Cytomety
- Cell Culture

KD-Validated Anti-MAPK activated protein kinase 2 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-MAPK activated protein kinase 2 antibody (Cat#AGI1254).

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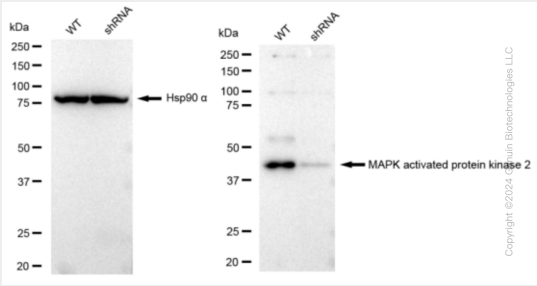
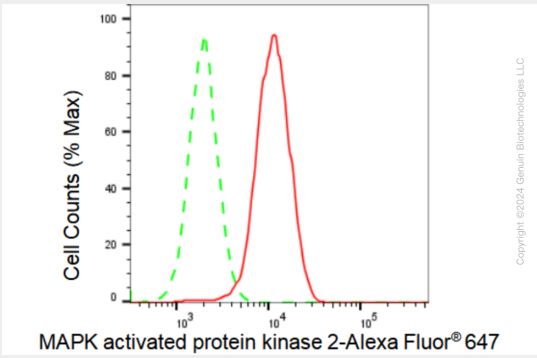
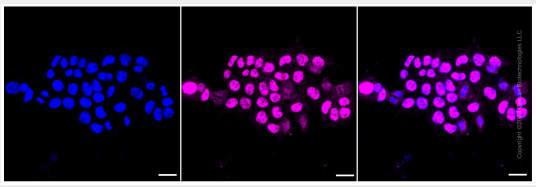
Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-MAPK activated protein kinase 2 antibody (Cat#AGI1254, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-MAPK activated protein kinase 2 antibody (Cat#AGI1254). MAPK activated protein kinase 2 expression in wild type (WT) and MAPK activated protein kinase 2 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-MAPK activated protein kinase 2 antibody (Cat#AGI1254, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of MAPK activated protein kinase 2 expression in HAP-1 cells using MAPK activated protein kinase 2 antibody (Cat#AGI1254, 1:2,000). Green, isotype control; red, MAPK activated protein kinase 2.



Immunocytochemical staining of HAP-1 cells with MAPK activated protein kinase 2 antibody (Cat#AGI1254, 1:1,000). Nuclei were stained blue with DAPI; MAPK activated protein kinase 2 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.