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Phospho-MAPKAPK-2 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10316

Specification

Phospho-MAPKAPK-2 Antibody - Product Information

Application	**WB**
Primary Accession	P49137
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**45568**

Phospho-MAPKAPK-2 Antibody - Additional Information

Gene ID 9261

Application & Usage: **Western blotting (1 µg/ml). However, the optimal conditions should be determined individually. The antibody detects phosphorylated MAPKAPK-2 (Thr334) of human and mouse origins. Reactivity to other species has not been tested.**

Other Names
MAPKAPK2 , MK2 , MAPKAPK-2

Target/Specificity
Phoshpo-MAPKAPK-2

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) antigen affinity purified rabbit polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 50% glycerol, 1% BSA, 0.02% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions

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

Phospho-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: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.

Phospho-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 Cytomety
- Cell Culture

Phospho-MAPKAPK-2 Antibody - Images

Phospho-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. MAPKAPK-2 is rapidly phosphorylated and activated in response to stress, cytokines, and chemotactic factors. 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.