SunLong Biotech Co.,LTD
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[Marker Primary Antibody]

Rabbit Anti-Phospho-MAPKAPK2 (Ser272)/AF647 Conjugated antibody

Catalog Number: SL5503R-AF647

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-Phospho-MAPKAPK2(Ser272)/AF647
Immunogen:	KLH conjugated Synthesised phosphopeptide derived from human MAPKAPK2 around the phosphorylation site of Ser272
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	IF=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse,Rat(predicted:Chicken,Pig,Cow,Rabbit)
Background:	background: MAP kinase activated protein kinase 2 (MAPKAP Kinase 2), also known as p45 hsp27 kinase, is a 45-54 kDa serine/threonine protein kinase that contains a proline rich sequence and two putative SH3 binding sites. MAPKAP Kinase 2 is activated in response to stress, IL1 and TNF, possibly catalyzed by p38/Hog dependent phosphorylation. One of the major substrates of MAPKAP Kinase 2 is hsp27, which stimulates actin polymerization in order to facilitate recovery from destruction of cytoskeleton during cellular stresses. MAPKAP2 is implicated in several disorders including ischemic brain injury and heart failure and has been shown to be important in regulating stress resistance and the production of TNF alpha. **Function:** Stress-activated serine/threonine-protein kinase involved in cytokines 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

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	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, ELAVL1, HNRNPA0, HSF1, HSP27/HSPB1, KRT18, KRT20, LIMK1, LSP1, PABPC1, PARN, PDE4A, RCSD1, RPS6KA3, TAB3 and TTP/ZFP36. Mediates phosphorylation of HSP27/HSPB1 in response to stress, leading to dissociate HSP27/HSPB1 from large small heat-shock protein (sHsps) oligomers and impair 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 regulate 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 transcript. 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 stabilize GADD45A mRNA. Involved in toll-like receptor signaling pathway (TLR) in dendritic cells: required for acute TLR-induced macropinocytosis by phosphorylating and activating RPS6KA3. **Subunit:** Heterodimer with p38-alpha/MAPK14. The heterodimer with p38-alpha/MAPK14 forms a stable complex: molecules are positioned 'face to face' so that the ATP-binding sites of both kinases are at the heterodimer interface. Interacts with PHC2. **Subcellular Location:** Cytoplasm. Nucleus. Note=Phosphorylation and subsequent activation releases the autoinhibitory helix, resulting in the export from the nucleus into the cytoplasm. **Tissue Specificity:** Expressed in all tissues examined. **Post-translational modifications:** Sumoylation inhibits the protein kinase activity. Phosphorylated and activated by MAP kinase p38-alpha/MAPK14 at Thr-222, Ser-272 and Thr-334. **Similarity:** Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. Contains 1 protein kinase domain. **Database links:** **Entrez Gene:** 9261 Human **Entrez Gene:** 17164 Mouse

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	Entrez Gene: 289014 Rat Omim: 602006 Human **SwissProt:** P49137 Human **SwissProt:** P49138 Mouse **Unigene:** 643566 Human **Unigene:** 713747 Human **Unigene:** 221235 Mouse Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.