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# Recombinant Anti-JNK2 Rabbit mAb

Catalog # AP94949

## Product Information

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|---|---|
| **Application** | WB, IHC, FC, IP, IF/IC |
| **Primary Accession** | P45984 |
| **Reactivity** | Human, Mouse, Rat |
| **Host** | Rabbit |
| **Clonality** | Monoclonal |
| **Calculated MW** | 48139 |

## Additional Information

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| **Gene ID** | 5601 |
| **Other Names** | JNK2; PRKM9; SAPK1A; Mitogen-activated protein kinase 9; MAP kinase 9; MAPK 9; JNK-55; Stress-activated protein kinase 1a; SAPK1a; Stress-activated protein kinase JNK2; c-Jun N-terminal kinase 2 |
| **Target/Specificity** | KLH-conjugated synthetic peptide encompassing a sequence within human JNK2 protein. The exact sequence is proprietary. |
| **Dilution** | WB~~WB (1/500 - 1/1000) IHC~~1:100~500 FC~~1:10~50 IP~~N/A IF/IC~~N/A |
| **Format** | Liquid in PBS, pH 7.3, 50% glycerol, 0.05% BSA, and 0.05% Proclin300. |
| **Storage** | Store at -20 °C.Stable for 12 months from date of receipt |

## Protein Information

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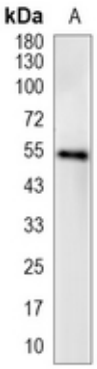
|---|---|
| **Name** | MAPK9 |
| **Synonyms** | JNK2, PRKM9, SAPK1A |
| **Function** | Serine/threonine-protein kinase involved in various processes such as cell proliferation, differentiation, migration, transformation and programmed cell death (PubMed:10376527, PubMed:15805466, PubMed:17525747, PubMed:19675674, PubMed:20595622, PubMed:21364637, PubMed:22441692, PubMed:34048572). Extracellular stimuli such as pro-inflammatory cytokines or physical stress stimulate the stress- activated protein kinase/c-Jun N-terminal kinase (SAP/JNK) signaling pathway. In this cascade, two dual specificity kinases MAP2K4/MKK4 and MAP2K7/MKK7 phosphorylate and activate MAPK9/JNK2 (PubMed:10376527, PubMed:15805466, PubMed:17525747, PubMed:19675674, PubMed:20595622, PubMed:21364637, PubMed:22441692, PubMed:34048572). In turn, MAPK9/JNK2 phosphorylates a number of transcription factors, primarily components of AP-1 such as JUN and ATF2 and |

thus regulates AP-1 transcriptional activity (PubMed:10376527). In response to oxidative or ribotoxic stresses, inhibits rRNA synthesis by phosphorylating and inactivating the RNA polymerase 1-specific transcription initiation factor RRN3 (PubMed:15805466). Promotes stressed cell apoptosis by phosphorylating key regulatory factors including TP53 and YAP1 (PubMed:17525747, PubMed:21364637). In T-cells, MAPK8 and MAPK9 are required for polarized differentiation of T-helper cells into Th1 cells (PubMed:19290929). Upon T-cell receptor (TCR) stimulation, is activated by CARMA1, BCL10, MAP2K7 and MAP3K7/TAK1 to regulate JUN protein levels (PubMed:19290929). Plays an important role in the osmotic stress- induced epithelial tight-junctions disruption (PubMed:20595622). When activated, promotes beta-catenin/CTNNB1 degradation and inhibits the canonical Wnt signaling pathway (PubMed:19675674). Also participates in neurite growth in spiral ganglion neurons (By similarity). Phosphorylates the CLOCK-BMAL1 heterodimer and plays a role in the regulation of the circadian clock (PubMed:22441692). Phosphorylates POU5F1, which results in the inhibition of POU5F1's transcriptional activity and enhances its proteasomal degradation (By similarity). Phosphorylates ALKBH5 in response to reactive oxygen species (ROS), promoting ALKBH5 sumoylation and inactivation (PubMed:34048572).

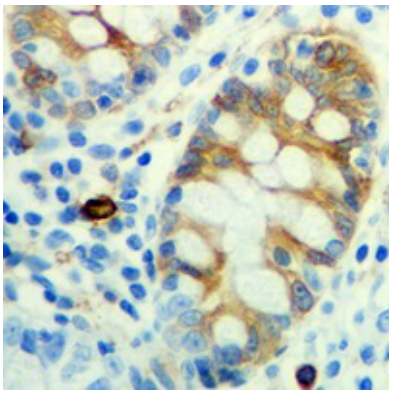
**Cellular Location**

Cytoplasm. Nucleus. Note=Colocalizes with POU5F1 in the nucleus. {ECO:0000250|UniProtKB:Q9WTU6}

## Images

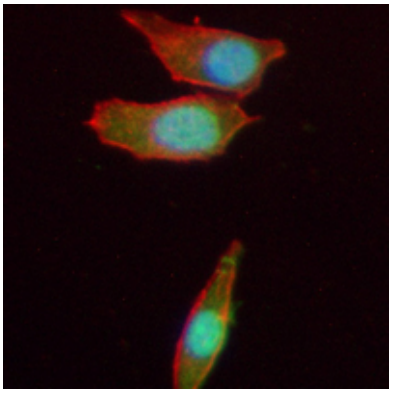



Western blot analysis of JNK2 expression in HeLa (A) whole cell lysates. (Predicted band size: 48 kD; Observed band size: 54 kD)



Immunohistochemical analysis of JNK2 staining in human colon formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Immunofluorescent analysis of JNK2 staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells



were washed with PBST and incubated with an AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).