10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

JNK2 (MAPK9) Antibody (C-term K373) Blocking peptide

Synthetic peptide
Catalog # BP7506b

Specification

JNK2 (MAPK9) Antibody (C-term K373) Blocking peptide - Product Information

Primary Accession P45984

JNK2 (MAPK9) Antibody (C-term K373) Blocking peptide - Additional Information

Gene ID 5601

Other Names
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, MAPK9, JNK2, PRKM9, SAPK1A

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7506b was selected from the C-term region of human JNK2 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

JNK2 (MAPK9) Antibody (C-term K373) Blocking peptide - Protein Information

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:<a

href="http://www.uniprot.org/citations/22441692" target="_blank">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}

JNK2 (MAPK9) Antibody (C-term K373) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

JNK2 (MAPK9) Antibody (C-term K373) Blocking peptide - Images

JNK2 (MAPK9) Antibody (C-term K373) Blocking peptide - Background

JNK2 responds to activation by environmental stress and pro-inflammatory cytokines by phosphorylating a number of transcription factors, primarily components of AP-1 such as c-Jun and ATF2 and thus regulates AP-1 transcriptional activity. In T-cells, JNK1 and JNK2 are required for

polarized differentiation of T-helper cells into Th1 cells. JNK2 isoforms display different binding patterns: alpha-1 and alpha-2 preferentially bind to c-Jun, whereas beta-1 and beta-2 bind to ATF2. However, there is no correlation between binding and phosphorylation, which is achieved at about the same efficiency by all isoforms. JUNB is not a substrate for JNK2 alpha-2, and JUND binds only weakly to it. JNK2 is activated by threonine and tyrosine phosphorylation by either of two dual specificity kinases, MAP2K4 and MAP2K7. It is inhibited by dual specificity phosphatases, such as DUSP1. The protein has been shown to bind to at least three scaffolding proteins, MAPK8IP1/JIP-1, MAPK8IP2/JIP-2 and MAPK8IP3/JIP-3/JSAP1. These proteins also bind other components of the JNK signaling pathway

JNK2 (MAPK9) Antibody (C-term K373) Blocking peptide - References

Gupta, S., et al., EMBO J. 15(11):2760-2770 (1996).Sluss, H.K., et al., Mol. Cell. Biol. 14(12):8376-8384 (1994).Kallunki, T., et al., Genes Dev. 8(24):2996-3007 (1994).Fleming, Y., et al., Biochem. J. 352 Pt 1, 145-154 (2000).