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

MAPK10 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP7222a

Specification

MAPK10 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P53779

MAPK10 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 5602

Other Names
Mitogen-activated protein kinase 10, MAP kinase 10, MAPK 10, MAP kinase p49 3F12, Stress-activated protein kinase 1b, SAPK1b, Stress-activated protein kinase JNK3, c-Jun N-terminal kinase 3, MAPK10, JNK3, JNK3A, PRKM10, SAPK1B

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7222a was selected from the N-term region of human MAPK10 . 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.

MAPK10 Antibody (N-term) Blocking Peptide - Protein Information

Name MAPK10

Synonyms JNK3, JNK3A, PRKM10, SAPK1B

Function
Serine/threonine-protein kinase involved in various processes such as neuronal proliferation, differentiation, migration and programmed cell death. 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 MAPK10/JNK3. In turn, MAPK10/JNK3 phosphorylates a number of transcription factors, primarily components of AP-1 such as JUN and ATF2 and thus regulates AP-1 transcriptional activity. Plays regulatory roles in the signaling pathways during neuronal apoptosis. Phosphorylates the neuronal microtubule regulator STMN2.

Acts in the regulation of the amyloid-beta precursor protein/APP signaling during neuronal differentiation by phosphorylating APP. Participates also in neurite growth in spiral ganglion neurons. Phosphorylates the CLOCK-BMAL1 heterodimer and plays a role in the photic regulation of the circadian clock (PubMed:22441692). Phosphorylates JUND and this phosphorylation is inhibited in the presence of MEN1 (PubMed:22327296).

Cellular Location
Cytoplasm. Membrane; Lipid-anchor. Nucleus Mitochondrion. Note=Palmitoylation regulates MAPK10 trafficking to cytoskeleton. Recruited to the mitochondria in the presence of SARM1 (By similarity).

Tissue Location
Specific to a subset of neurons in the nervous system. Present in the hippocampus and areas, cerebellum, striatum, brain stem, and weakly in the spinal cord. Very weak expression in testis and kidney

MAPK10 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

MAPK10 Antibody (N-term) Blocking Peptide - Images

MAPK10 Antibody (N-term) Blocking Peptide - Background

MAPK10 is a member of the MAP kinase family. MAP kinases act as an integration point for multiple biochemical signals, and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and development. This protein is a neuronal-specific form of c-Jun N-terminal kinases (JNKs). Through its phosphorylation and nuclear localization, this kinase plays regulatory roles in the signaling pathways during neuronal apoptosis. Beta-arrestin 2, a receptor-regulated MAP kinase scaffold protein, is found to interact with, and stimulate the phosphorylation of this kinase by MAP kinase kinase 4 (MKK4). Cyclin-dependent kinase 5 can phosphorylate, and inhibit the activity of this kinase, which may be important in preventing neuronal apoptosis.

MAPK10 Antibody (N-term) Blocking Peptide - References

Li, B.S., et al., EMBO J. 21(3):324-333 (2002).Yoshida, S., et al., J. Hum. Genet. 47(11):614-619 (2002).McDonald, P.H., et al., Science 290(5496):1574-1577 (2000).Yang, D.D., et al., Nature 389(6653):865-870 (1997).Gupta, S., et al., EMBO J. 15(11):2760-2770 (1996).