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

MAPK10 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7222a

Product Information

Application	WB, IHC-P, E
Primary Accession	P53779
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	52585
Antigen Region	7-34

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	This MAPK10 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 7-34 amino acids from the N-terminal region of human MAPK10.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MAPK10 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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. Also participates 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

Background

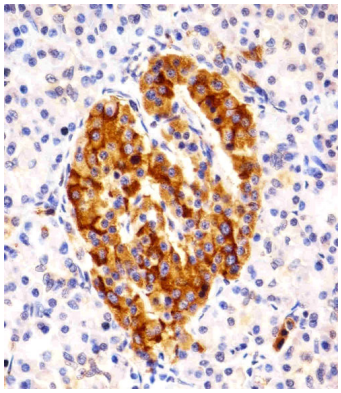
MAPK10 is a member of the MAP kinase family. MAP kinases act as an integration point for multiple biochemical signals, and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and development. This protein is a neuronal-specific form of 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.

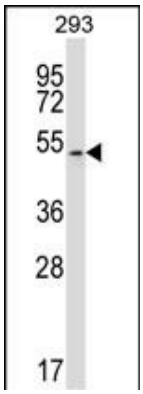
References

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).

Images

Immunohistochemical analysis of paraffin-embedded H. pancreas section using MAPK10 Antibody (N-term)(Cat#AP7222a). AP7222a was diluted at 1:25 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.





MAPK10 Antibody (C21) (Cat. #AP7222a) western blot analysis in SH-SY5Y cell line lysates (35ug/lane).This demonstrates the MAPK10 antibody detected the MAPK10 protein (arrow).

Citations

- c-Jun N-terminal kinase 3 deficiency protects axotomized retinal ganglion cells affecting mitochondria involved apoptosis pathway.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.