

# MAPK10 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7222a

## Product Information

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<b>Application</b>	WB, IHC-P, E
<b>Primary Accession</b>	<a href="#">P53779</a>
<b>Reactivity</b>	Human, Rat, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Calculated MW</b>	52585
<b>Antigen Region</b>	7-34

## Additional Information

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<b>Gene ID</b>	5602
<b>Other Names</b>	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
<b>Target/Specificity</b>	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.
<b>Dilution</b>	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
<b>Format</b>	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.
<b>Storage</b>	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.
<b>Precautions</b>	MAPK10 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	MAPK10
<b>Synonyms</b>	JNK3, JNK3A, PRKM10, SAPK1B
<b>Function</b>	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

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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.

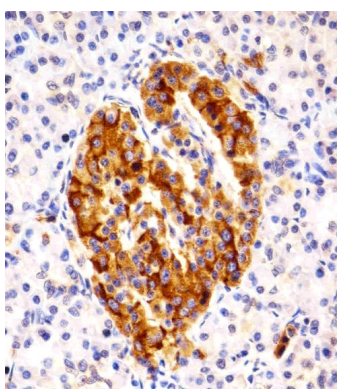
## References

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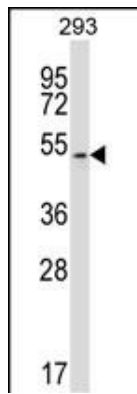
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McDonald, P.H., et al., Science 290(5496):1574-1577 (2000).  
Yang, D.D., et al., Nature 389(6653):865-870 (1997).  
Gupta, S., et al., EMBO J. 15(11):2760-2770 (1996).

## Images

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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

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- [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'.