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MAPK10 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1172a

Product Information

Application	WB, ICC, E
Primary Accession	P53779
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Clone Names	10E4A4
Isotype	IgG1
Calculated MW	52585
Description	MAPK10: mitogen-activated protein kinase 10, also known as JNK3, JNK3A, PRKM10, p54bSAPK. Entrez Protein NP_002744. It 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 kianse 5 can phosphorylate, and inhibit the activity of this kinase, which may be important in preventing neuronal apoptosis. Four alternatively spliced transcript variants encoding distinct isoforms have been reported.
Immunogen	Purified recombinant fragment of human MAPK10 (aa28-233) expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	5602
Other Names	Mitogen-activated protein kinase 10, MAP kinase 10, MAPK 10, 2.7.11.24, 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
Dilution	WB~~1/500 - 1/2000 ICC~~N/A E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions	MAPK10 Antibody 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

References

1. Blood. 2002 Oct 1;100(7):2546-53 2. J Leukoc Biol. 2003 May;73(5):682 3. Exp Neurol. 2004 Aug;188(2):246

Images

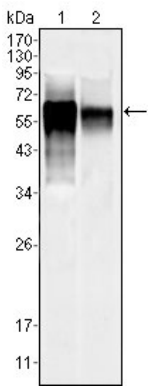


Figure 1: Western blot analysis using MAPK10 mouse mAb against NIH/3T3 (1) and SKN-SH (2) cell lysate.

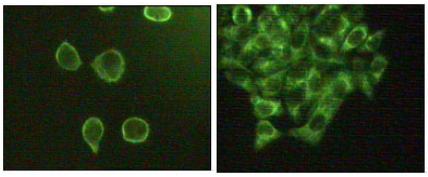


Figure 2: Immunofluorescence staining of methanol-fixed A431 (left) and Hela (right) cells showing cytoplasmic and membrane localization.

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