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MAPK12 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7224C

Product Information

Application	WB, IHC-P, E
Primary Accession	P53778
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB03195/03196
Calculated MW	41940
Antigen Region	339-367

Additional Information

Gene ID	6300
Other Names	Mitogen-activated protein kinase 12, MAP kinase 12, MAPK 12, Extracellular signal-regulated kinase 6, ERK-6, Mitogen-activated protein kinase p38 gamma, MAP kinase p38 gamma, Stress-activated protein kinase 3, MAPK12, ERK6, SAPK3
Target/Specificity	This MAPK12 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 339-367 amino acids from the Central region of human MAPK12.
Dilution	WB~~1:2000 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 prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	MAPK12 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAPK12
Synonyms	ERK6, SAPK3

Function	Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK12 is one of the four p38 MAPKs which play an important role in the cascades of cellular responses evoked by extracellular stimuli such as pro-inflammatory cytokines or physical stress leading to direct activation of transcription factors such as ELK1 and ATF2. Accordingly, p38 MAPKs phosphorylate a broad range of proteins and it has been estimated that they may have approximately 200 to 300 substrates each. Some of the targets are downstream kinases such as MAPKAPK2, which are activated through phosphorylation and further phosphorylate additional targets. Plays a role in myoblast differentiation and also in the down-regulation of cyclin D1 in response to hypoxia in adrenal cells suggesting MAPK12 may inhibit cell proliferation while promoting differentiation. Phosphorylates DLG1. Following osmotic shock, MAPK12 in the cell nucleus increases its association with nuclear DLG1, thereby causing dissociation of DLG1-SFPQ complexes. This function is independent of its catalytic activity and could affect mRNA processing and/or gene transcription to aid cell adaptation to osmolarity changes in the environment. Regulates UV-induced checkpoint signaling and repair of UV-induced DNA damage and G2 arrest after gamma-radiation exposure. MAPK12 is involved in the regulation of SLC2A1 expression and basal glucose uptake in L6 myotubes; and negatively regulates SLC2A4 expression and contraction-mediated glucose uptake in adult skeletal muscle. C-Jun (JUN) phosphorylation is stimulated by MAPK14 and inhibited by MAPK12, leading to a distinct AP-1 regulation. MAPK12 is required for the normal kinetochore localization of PLK1, prevents chromosomal instability and supports mitotic cell viability. MAPK12- signaling is also positively regulating the expansion of transient amplifying myogenic precursor cells during muscle growth and regeneration.
Cellular Location	Cytoplasm. Nucleus. Mitochondrion. Note=Mitochondrial when associated with SH3BP5. In skeletal muscle colocalizes with SNTA1 at the neuromuscular junction and throughout the sarcolemma (By similarity).
Tissue Location	Highly expressed in skeletal muscle and heart.

Background

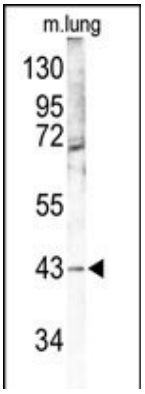
Activation of members of the mitogen-activated protein kinase family is a major mechanism for transduction of extracellular signals. Stress-activated protein kinases are one subclass of MAP kinases. MAPK12 functions as a signal transducer during differentiation of myoblasts to myotubes.

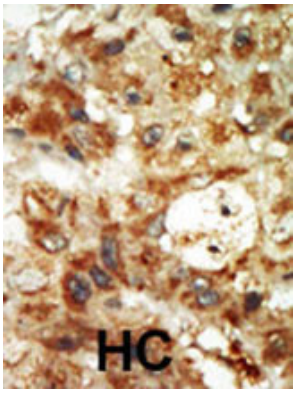
References

Garcia-Lora, A., et al., Cancer Immunol. Immunother. 52(1):59-64 (2003).
Julien, C., et al., J. Biol. Chem. 278(43):42615-42624 (2003).
Robinson, M.J., et al., J. Biol. Chem. 277(7):5094-5100 (2002).
Court, N.W., et al., J. Mol. Cell. Cardiol. 34(4):413-426 (2002).
Wang, X., et al., Mol. Cell. Biol. 20(13):4543-4552 (2000).

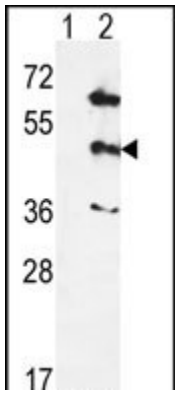
Images

Western blot analysis of p38 gamma (MAPK12) Antibody (Center) (Cat.# AP7224c) in mouse lung tissue lysates (35ug/lane). MAPK12 (arrow) was detected using the purified Pab.





Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Western blot analysis of MAPK12 (arrow) using rabbit polyclonal hMAPK12-P354 (Cat. #AP7224c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the MAPK12 gene.

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