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Mouse Mapk3 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14266b

Product Information

Application	IHC-P, WB, FC, E
Primary Accession	Q63844
Other Accession	NP_036082.1
Reactivity	Human, Rat, Mouse
Predicted	Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34827
Calculated MW	43066
Antigen Region	353-380

Additional Information

Gene ID	26417
Other Names	Mitogen-activated protein kinase 3, MAP kinase 3, MAPK 3, ERT2, Extracellular signal-regulated kinase 1, ERK-1, Insulin-stimulated MAP2 kinase, MAP kinase isoform p44, p44-MAPK, MNK1, Microtubule-associated protein 2 kinase, p44-ERK1, Mapk3, Erk1, Prkm3
Target/Specificity	This Mouse Mapk3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 353-380 amino acids from the C-terminal region of mouse Mapk3.
Dilution	IHC-P~~1:100~500 WB~~1:1000 FC~~1:25 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	Mouse Mapk3 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Mapk3

Synonyms	Erk1, Prkm3
Function	Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK1/ERK2 and MAPK3/ERK1 are the 2 MAPKs which play an important role in the MAPK/ERK cascade. They participate also in a signaling cascade initiated by activated KIT and KITLG/SCF. Depending on the cellular context, the MAPK/ERK cascade mediates diverse biological functions such as cell growth, adhesion, survival and differentiation through the regulation of transcription, translation, cytoskeletal rearrangements. The MAPK/ERK cascade also plays a role in initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors. About 160 substrates have already been discovered for ERKs. Many of these substrates are localized in the nucleus, and seem to participate in the regulation of transcription upon stimulation. However, other substrates are found in the cytosol as well as in other cellular organelles, and those are responsible for processes such as translation, mitosis and apoptosis. Moreover, the MAPK/ERK cascade is also involved in the regulation of the endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC); as well as in the fragmentation of the Golgi apparatus during mitosis. The substrates include transcription factors (such as ATF2, BCL6, ELK1, ERF, FOS, HSF4 or SPZ1), cytoskeletal elements (such as CANX, CTTN, GJA1, MAP2, MAPT, PXN, SORBS3 or STMN1), regulators of apoptosis (such as BAD, BTG2, CASP9, DAPK1, IER3, MCL1 or PPARG), regulators of translation (such as EIF4EBP1) and a variety of other signaling-related molecules (like ARHGEF2, DEPTOR, FRS2 or GRB10). Protein kinases (such as RAF1, RPS6KA1/RSK1, RPS6KA3/RSK2, RPS6KA2/RSK3, RPS6KA6/RSK4, SYK, MKNK1/MNK1, MKNK2/MNK2, RPS6KA5/MSK1, RPS6KA4/MSK2, MAPKAPK3 or MAPKAPK5) and phosphatases (such as DUSP1, DUSP4, DUSP6 or DUSP16) are other substrates which enable the propagation the MAPK/ERK signal to additional cytosolic and nuclear targets, thereby extending the specificity of the cascade. Phosphorylates GJA1 at 'Ser-279' and 'Ser- 282' resulting in an increase in GJA1 ubiquitination and ultimately lysosomal degradation (By similarity).
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:P21708}. Nucleus. Membrane, caveola {ECO:0000250|UniProtKB:P21708}. Cell junction, focal adhesion Note=Autophosphorylation at Thr-207 promotes nuclear localization (By similarity). PEA15-binding redirects the biological outcome of MAPK3 kinase-signaling by sequestering MAPK3 into the cytoplasm (PubMed:11702783). {ECO:0000250|UniProtKB:P27361, ECO:0000269|PubMed:11702783}

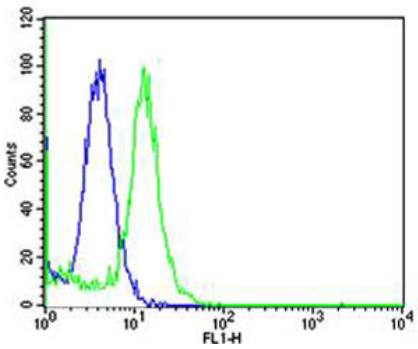
Background

Involved in both the initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors such as ELK-1. Phosphorylates EIF4EBP1; required for initiation of translation. Phosphorylates microtubule-associated protein 2 (MAP2) and heat shock factor protein 4 (HSF4) (By similarity). Phosphorylates SPZ1.

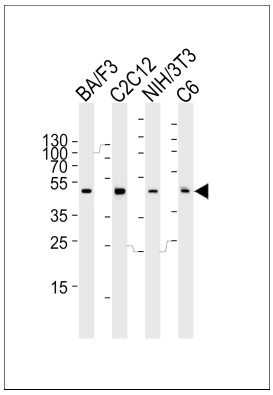
References

Chen, W., et al. Biochem. Biophys. Res. Commun. 401(3):339-343(2010)
Chandrakesan, P., et al. J. Biol. Chem. 285(43):33485-33498(2010)
Alter, B.J., et al. J. Neurosci. 30(34):11537-11547(2010)
Spruce, T., et al. Dev. Cell 19(2):207-219(2010)
Bremer, J., et al. PLoS ONE 5 (8), E12450 (2010) :

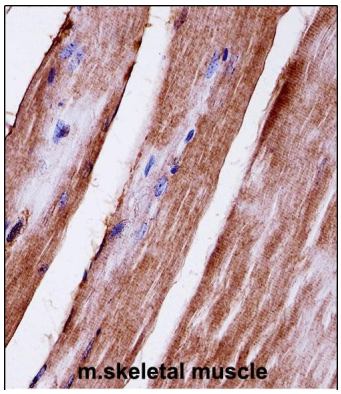
Images



Flow cytometric analysis of Hela cells using Mouse Mapk3 Antibody (C-term)(green, Cat#AP14266b) compared to an isotype control of rabbit IgG(blue). AP14266b was diluted at 1:25 dilution. An Alexa Fluor® 488 goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody.



Western blot analysis of lysates from mouse BA/F3, C2C12, NIH/3T3 and rat C6 cell line (from left to right), using Mouse Mapk3 Antibody (C-term)(Cat. #AP14266b). AP14266b was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.



Mouse Mapk3 Antibody (C-term) (AP14266b)immunohistochemistry analysis in formalin fixed and paraffin embedded mouse skeletal muscle followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of Mouse Mapk3 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

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