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MEK1 (MAP2K1) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5267

Product Information

Application	WB
Primary Accession	Q02750
Other Accession	Q01986, P29678, P31938
Reactivity	Mouse, Rat, Human
Predicted	Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	43439
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	5604
Antigen Region	1-30
Other Names	MAP2K1; MEK1; PRKMK1; Dual specificity mitogen-activated protein kinase kinase 1; ERK activator kinase 1; MAPK/ERK kinase 1
Dilution	WB~~ 1:1000
Target/Specificity	This MEK1 (MAP2K1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human MEK1 (MAP2K1).
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	MEK1 (MAP2K1) Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAP2K1 (HGNC:6840)
Synonyms	MEK1, PRKMK1

Function	Dual specificity protein kinase which acts as an essential component of the MAP kinase signal transduction pathway. Binding of extracellular ligands such as growth factors, cytokines and hormones to their cell-surface receptors activates RAS and this initiates RAF1 activation. RAF1 then further activates the dual-specificity protein kinases MAP2K1/MEK1 and MAP2K2/MEK2. Both MAP2K1/MEK1 and MAP2K2/MEK2 function specifically in the MAPK/ERK cascade, and catalyze the concomitant phosphorylation of a threonine and a tyrosine residue in a Thr-Glu-Tyr sequence located in the extracellular signal-regulated kinases MAPK3/ERK1 and MAPK1/ERK2, leading to their activation and further transduction of the signal within the MAPK/ERK cascade. Activates BRAF in a KSR1 or KSR2-dependent manner; by binding to KSR1 or KSR2 releases the inhibitory intramolecular interaction between KSR1 or KSR2 protein kinase and N-terminal domains which promotes KSR1 or KSR2-BRAF dimerization and BRAF activation (PubMed:29433126). Depending on the cellular context, this pathway mediates diverse biological functions such as cell growth, adhesion, survival and differentiation, predominantly through the regulation of transcription, metabolism and cytoskeletal rearrangements. One target of the MAPK/ERK cascade is peroxisome proliferator-activated receptor gamma (PPARG), a nuclear receptor that promotes differentiation and apoptosis. MAP2K1/MEK1 has been shown to export PPARG from the nucleus. The MAPK/ERK cascade is also involved in the regulation of 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.
Cellular Location	Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, microtubule organizing center, spindle pole body. Cytoplasm. Nucleus Membrane; Peripheral membrane protein. Note=Localizes at centrosomes during prometaphase, midzone during anaphase and midbody during telophase/cytokinesis (PubMed:14737111). Membrane localization is probably regulated by its interaction with KSR1 (PubMed:10409742)
Tissue Location	Widely expressed, with extremely low levels in brain.

Background

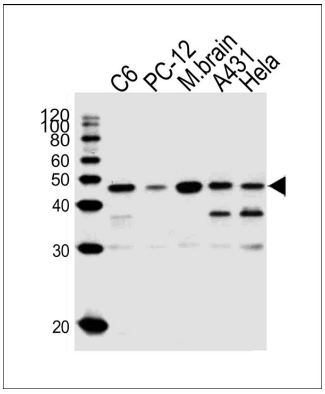
MAP2K1 is a member of the dual specificity protein kinase family, which acts as a mitogen-activated protein (MAP) kinase kinase. MAP kinases, also known as extracellular signal-regulated kinases (ERKs), act as an integration point for multiple biochemical signals. This protein kinase lies upstream of MAP kinases and stimulates the enzymatic activity of MAP kinases upon wide variety of extra- and intracellular signals. As an essential component of MAP kinase signal transduction pathway, this kinase is involved in many cellular processes such as proliferation, differentiation, transcription regulation and development.

References

Zheng, B., et al., Blood 102(3):1019-1027 (2003).
Li, S.P., et al., Cancer Res. 63(13):3473-3477 (2003).
Zhu, X., et al., J. Neurochem. 86(1):136-142 (2003).
Fringer, J., et al., J. Biol. Chem. 278(23):20612-20617 (2003).
Witowsky, J.A., et al., J. Biol. Chem. 278(3):1403-1406 (2003).

Images

Western blot analysis of lysates from rat C6,rat PC-12 cell line,mouse brain tissue,A431,Hela cell line (from left to



right), using MAP2K1 Antibody (P1)(Cat. #AW5267). AW5267 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.

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