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MEK1 (MAP2K1) Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7904a

Specification

MEK1 (MAP2K1) Antibody (N-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	Q02750
Other Accession	Q01986, P29678, P31938
Reactivity	**Human**
Predicted	**Mouse, Rabbit, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**1-30**

MEK1 (MAP2K1) Antibody (N-term) - Additional Information

Gene ID 5604

Other Names
Dual specificity mitogen-activated protein kinase kinase 1, MAP kinase kinase 1, MAPKK 1, MKK1, ERK activator kinase 1, MAPK/ERK kinase 1, MEK 1, MAP2K1, MEK1, PRKMK1

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).

Dilution
WB~~1:1000
IHC-P~~1:10~50

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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.

MEK1 (MAP2K1) Antibody (N-term) - 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.

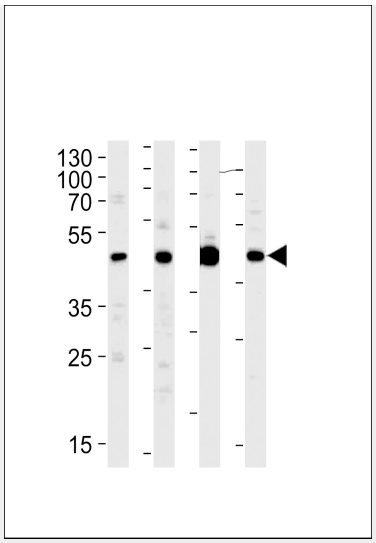
MEK1 (MAP2K1) Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

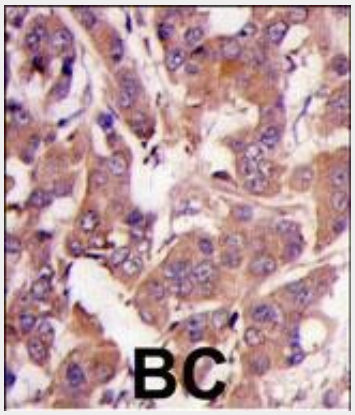
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

MEK1 (MAP2K1) Antibody (N-term) - Images

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MEK1 Antibody (M1) (Cat.# AP7904a) western blot analysis in Jurkat,PC-12,rat C6 cell line and mouse brain lysates (35ug/lane).This demonstrates the MEK1 antibody detected the MEK1 protein (arrow).



Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with MEK1 Antibody (N-term)(Cat.#AP7904a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

MEK1 (MAP2K1) Antibody (N-term) - Background

MEK1 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.

MEK1 (MAP2K1) Antibody (N-term) - 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).

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MEK1 (MAP2K1) Antibody (N-term) - Citations

- Induction of Apoptosis in Human Leukemic Cell Lines by Diallyl Disulfide via Modulation of EGFR/ERK/PKM2 Signaling Pathways.