

**Anti-MEK1 Antibody**  
**Catalog # ABO10700****Specification**

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**Anti-MEK1 Antibody - Product Information**

Application	WB, IHC-P, ICC
Primary Accession	<a href="#">Q02750</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Dual specificity mitogen-activated protein kinase kinase 1(MAP2K1) detection. Tested with WB, IHC-P, ICC in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-MEK1 Antibody - Additional Information**

**Gene ID** 5604

**Other Names**

Dual specificity mitogen-activated protein kinase kinase 1, MAP kinase kinase 1, MAPKK 1, MKK1, 2.7.12.2, ERK activator kinase 1, MAPK/ERK kinase 1, MEK 1, MAP2K1, MEK1, PRKMK1

**Calculated MW**

43439 MW KDa

**Application Details**

Immunocytochemistry , 0.5-1 µg/ml, Human, -<br>Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse<br>

**Subcellular Localization**

Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, microtubule organizing center, spindle pole body. Cytoplasm. Nucleus. Localizes at centrosomes during prometaphase, midzone during anaphase and midbody during telophase/cytokinesis.

**Tissue Specificity**

Widely expressed, with extremely low levels in brain. .

**Protein Name**

Dual specificity mitogen-activated protein kinase kinase 1(MAP kinase kinase 1/)

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human MEK1(353-367aa KQLMVHAFIKRSDAE), identical to the related mouse and rat sequences.

**Purification**

Immunogen affinity purified.

**Cross Reactivity**

No cross reactivity with other proteins

**Storage**

**At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.**

**Sequence Similarities**

Belongs to the protein kinase superfamily. STE Ser/Thr protein kinase family. MAP kinase kinase subfamily.

**Anti-MEK1 Antibody - 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:<a href="http://www.uniprot.org/citations/29433126" target="\_blank">29433126</a>). 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**

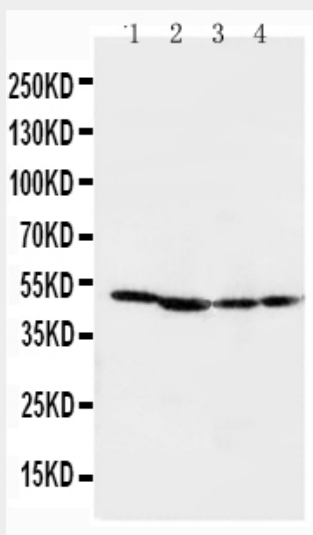
Widely expressed, with extremely low levels in brain.

## Anti-MEK1 Antibody - Protocols

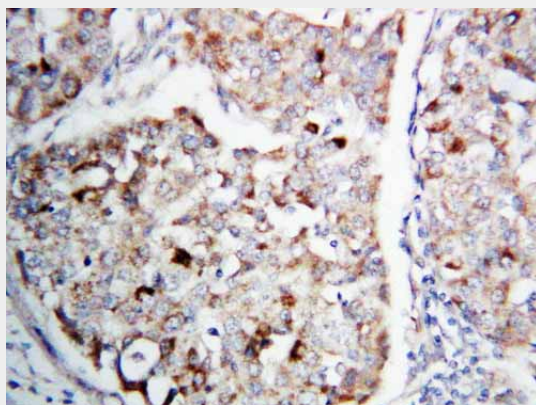
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

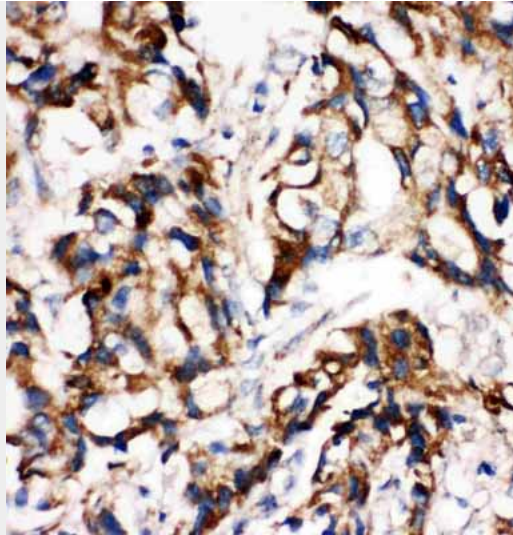
## Anti-MEK1 Antibody - Images



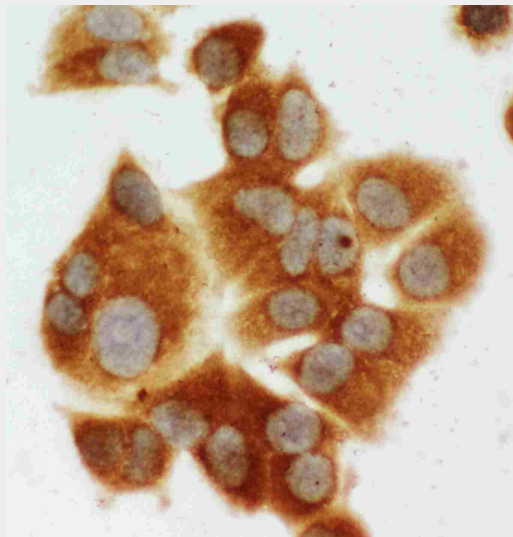
Anti-MEK1 antibody, ABO10700, Western blotting  
Lane 1: Rat Skeletal Muscle Tissue Lysate  
Lane 2: Rat Kidney Tissue Lysate  
Lane 3: CEM Cell Lysate  
Lane 4: COLO20 Cell Lysate



Anti-MEK1 antibody, ABO10700, IHC(P)  
IHC(P): Human Lung Cancer Tissue



Anti-MEK1 antibody, ABO10700, IHC(P)IHC(P): Human Mammary Cancer Tissue



Anti-MEK1 antibody, ABO10700, ICCICC: MCF-7 Cell

#### **Anti-MEK1 Antibody - Background**

Dual specificity mitogen-activated protein kinase kinase 1 is an enzyme that in humans is encoded by the MAP2K1 gene. The protein encoded by this gene 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 activation by a wide variety of extra- and intracellular signals. As an essential component of the MAP kinase signal transduction pathway, this kinase is involved in many cellular processes such as proliferation, differentiation, transcription regulation and development. Rampoldi et al.(1997) localized the MAP2K1 gene to 15q22.1-q22.33.