

p44/42 MAPK (Erk1/2) Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10062**Specification**

p44/42 MAPK (Erk1/2) Antibody - Product Information

Application	WB
Primary Accession	P63086
Reactivity	Human, Mouse, Rat, Chicken, Sheep
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	41276

p44/42 MAPK (Erk1/2) Antibody - Additional Information**Gene ID** 116590

Positive Control	Mouses 3T3 cell lysate, Jurkat cell lysate, rat kidney tissue lysate
Application & Usage	Western Blot analysis (1-4 µg/ml).

Other Names

MAPK1, p38, ERK , P42MAPK, ERK2 , p40 , PRKM1 , p41mapk , PRKM2, MAPK2 , p42-MAPK, p41 , ERK-2, ERT1

Target/Specificity

p44/42 MAPK (Erk1/2)

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.5 mg/ml) affinity purified rabbit anti- ERK2/MAPK1 polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 5 mM EDTA and 0.01% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions**Precautions**

p44/42 MAPK (Erk1/2) Antibody is for research use only and not for use in diagnostic or therapeutic

procedures.

p44/42 MAPK (Erk1/2) Antibody - Protein Information

Name Mapk1 {ECO:0000312|RGD:70500}

Synonyms Erk2, Mapk, Prkm1

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 FXR1) and a variety of other signaling-related molecules (like ARHGEF2, DCC, 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. Mediates phosphorylation of TPR in response to EGF stimulation. May play a role in the spindle assembly checkpoint. Phosphorylates PML and promotes its interaction with PIN1, leading to PML degradation (By similarity). Phosphorylates CDK2AP2 (PubMed:12944431).

Cellular Location

Cytoplasm, cytoskeleton, spindle. Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm. Membrane, caveola. Cell junction, focal adhesion {ECO:0000250|UniProtKB:P63085}. Note=Associated with the spindle during prometaphase and metaphase. PEA15-binding and phosphorylated DAPK1 promote its cytoplasmic retention. Phosphorylation at Ser- 244 and Ser- 246 as well as autophosphorylation at Thr-188 promote nuclear localization.

Tissue Location

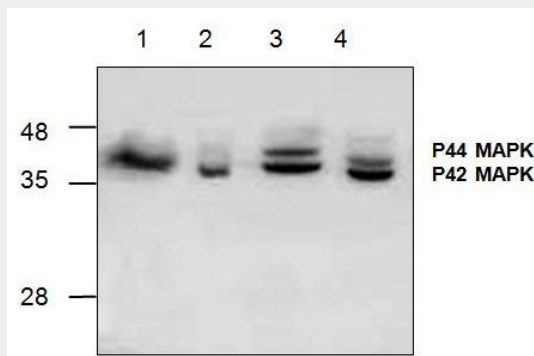
Highest levels within the nervous system, expressed in different tissues, mostly in muscle, thymus and heart

p44/42 MAPK (Erk1/2) 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](#)

p44/42 MAPK (Erk1/2) Antibody - Images



Western blot analysis of p44/42 MAPK using rat kidney tissue lysate (Lane 1), mouse 3T3 cell lysate (Lane 2) and Jurkat cell lysate (Lane 3 & 4).

p44/42 MAPK (Erk1/2) Antibody - Background

The extracellular signal-regulated kinase 1 and 2 (Erk1 and Erk2) are closely related mitogen activated protein (MAP) kinases that are activated through the extracellular stimulation by many growth factors, mitogens and differentiation promoting agents via a protein kinase cascade. Erk1/2 are activated approximately 1000 fold by phosphorylation of neighboring threonine and tyrosine residues by Mek1 and Mek2. Both sites must be phosphorylated for maximum activity. Erk1/2 kinases are ubiquitously distributed in the nervous system, as well as a broad range of cells and tissues. These two kinases represent proximal kinases in the classical MAP kinase cascade pathway which links growth and differentiation signals at the cell surface (through tyrosine kinase) with transcription in the nucleus.