10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

P44/p42 MAPK (Erk1/2) Blocking Peptide

Catalog # PBV10034b

Specification

P44/p42 MAPK (Erk1/2) Blocking Peptide - Product Information

Primary Accession	P63086
Gene ID	116590
Calculated MW	41276

P44/p42 MAPK (Erk1/2) Blocking Peptide - Additional Information

Gene ID 116590

Application & Usage

The peptide is used for blocking the antibody activity of p44/p42 (Erk1/2). It usually blocks the antibody activity completely in Western blot analysis by incubating the peptide with equal volume of antibody for 30-60 minutes at 37°C.

Other Names
Mitogen-activated protein kinase 1, MAP kinase 1, MAPK 1, 2.7.11.24, ERT1, Extracellular signal-regulated kinase 2, ERK-2, MAP kinase isoform p42, p42-MAPK, Mitogen-activated protein kinase 2, MAP kinase 2, MAPK 2, Mapk1, Erk2, Mapk, Prkm1

Target/Specificity
P44/p42 MAPK (Erk1/2)

Formulation
50 µg (0.5 mg/ml) in phosphate buffered saline (PBS), pH 7.2, containing 50% glycerol, 1% BSA and 0.02% thimerosal.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
P44/p42 MAPK (Erk1/2) Blocking Peptide is for research use only and not for use in diagnostic or therapeutic procedures.

P44/p42 MAPK (Erk1/2) Blocking Peptide - 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/p42 MAPK (Erk1/2) Blocking Peptide - 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

P44/p42 MAPK (Erk1/2) Blocking Peptide - Images