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

Anti-Phospho-MAP Kinase, Activated(Diphosphorylated ERK-1&2) Antibody (Monoclonal, MAPK-YT)

Catalog # ABO10444

Specification

Anti-Phospho-MAP Kinase, Activated(Diphosphorylated ERK-1&2) Antibody (Monoclonal, MAPK-YT) - Product Information

Application	**WB, IHC-P, ICC**
Primary Accession	P21708
Host	**Mouse**
Isotype	**Mouse IgG1**
Reactivity	**Human, Mouse, Rat**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Mouse IgG monoclonal antibody for MAP Kinase, Activated (Diphosphorylated ERK-1&2), mitogen-activated protein kinase 1; mitogen-activated protein kinase 3 (MAPK1; MAPK3) detection. Tested with WB, IHC-P, ICC in Human;mouse;rat;yeast. No cross reactivity with other proteins.

Reconstitution
Add 1ml of PBS buffer will yield a concentration of 100ug/ml.

Anti-Phospho-MAP Kinase, Activated(Diphosphorylated ERK-1&2) Antibody (Monoclonal, MAPK-YT) - Additional Information

Gene ID 50689

Other Names
Mitogen-activated protein kinase 3, MAP kinase 3, MAPK 3, 2.7.11.24, ERT2, Extracellular signal-regulated kinase 1, ERK-1, Insulin-stimulated MAP2 kinase, MAP kinase isoform p44, p44-MAPK, MNK1, Microtubule-associated protein 2 kinase, p44-ERK1, Mapk3, Erk1, Prkm3

Calculated MW
43081 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.4-1 µg/ml, Human, mouse, rat, yeast, By Heat

Immunocytochemistry , 1 µg/ml, Human, mouse, rat, yeast, -
Western blot, 0.25-0.5 µg/ml, Human, mouse, rat, yeast

Subcellular Localization
Cytoplasm . Nucleus. Autophosphorylation at Thr-207 promotes nuclear localization. PEA15-binding redirects the biological outcome of MAPK3 kinase- signaling by sequestering MAPK3 into the cytoplasm. .

Tissue Specificity
Highest levels within the nervous system, expressed in different tissues, mostly in intestine, placenta and lung.

Protein Name
Mitogen-activated protein kinase 1; Mitogen-activated protein kinase 3

Contents
Mouse ascites fluid, 1.2% sodium acetate, 2mg BSA, with 0.01mg NaN3 as preservative.

Immunogen
A synthetic peptide containing 11 amino acids, HTGFLTpEYpVAT, corresponding to the phosphorylated form of ERK-activation loop conjugated to KLH.

Purification
Ascites

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. CMGC Ser/Thr protein kinase family. MAP kinase subfamily.

Anti-Phospho-MAP Kinase, Activated(Diphosphorylated ERK-1&2) Antibody (Monoclonal, MAPK-YT) - Protein Information

Name Mapk3

Synonyms Erk1, Prkm3

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 a variety of other signaling-related molecules (like ARHGEF2, DEPTOR, 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.

Cellular Location
Cytoplasm. Nucleus. Membrane, caveola. Cell junction, focal adhesion {ECO:0000250|UniProtKB:Q63844}. Note=Autophosphorylation at Thr-207 promotes nuclear localization (By similarity). PEA15-binding redirects the biological outcome of MAPK3 kinase-signaling by sequestering MAPK3 into the cytoplasm (By similarity) {ECO:0000250|UniProtKB:P27361, ECO:0000250|UniProtKB:Q63844}

Tissue Location
Highest levels within the nervous system, expressed in different tissues, mostly in intestine, placenta and lung

Anti-Phospho-MAP Kinase, Activated(Diphosphorylated ERK-1&2) Antibody (Monoclonal, MAPK-YT) - 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

Anti-Phospho-MAP Kinase, Activated(Diphosphorylated ERK-1&2) Antibody (Monoclonal, MAPK-YT) - Images

Anti-Phospho-MAP Kinase, Activated(Diphosphorylated ERK-1&2) Antibody (Monoclonal, MAPK-YT) - Background

In mammalian cells, a variety of extracellular stimuli generate intracellular signals that converge on a limited number of so-called mitogen-activated protein(MAP) kinase pathways. The central core of each MAP kinase(MAPK) pathway is a conserved cascade of 3 protein kinases: an activated MAPK kinase kinase(MAPKKK) phosphorylates and activates a specific MAPK kinase(MAPKK), which then activates a specific MAPK. Mek1/2 MAPK kinases are essential for mammalian development, homeostasis, and Raf-induced hyperplasia. Germline mutations in genes within the MAPK pathway cause cardio-facio-cutaneous syndrome.