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Bi-Phospho-ERK1/2(T202/Y204) Antibody
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3607a

Specification

Bi-Phospho-ERK1/2(T202/Y204) Antibody - Product Information

Application	**DB, WB,E**
Primary Accession	P27361
Other Accession	P21708, Q63844, P40417
Reactivity	**Human**
Predicted	**Drosophila, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**43136**

Bi-Phospho-ERK1/2(T202/Y204) Antibody - Additional Information

Gene ID 5595

Other Names
Mitogen-activated protein kinase 3, MAP kinase 3, MAPK 3, ERT2, Extracellular signal-regulated kinase 1, ERK-1, Insulin-stimulated MAP2 kinase, MAP kinase isoform p44, p44-MAPK, Microtubule-associated protein 2 kinase, p44-ERK1, MAPK3, ERK1, PRKM3

Target/Specificity
This ERK1/2 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding T202/Y204 of human ERK1/2.

Dilution
DB~~1:500
WB~~1:1000
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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
Bi-Phospho-ERK1/2(T202/Y204) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Bi-Phospho-ERK1/2(T202/Y204) Antibody - Protein Information

Name MAPK3

Synonyms ERK1, PRKM3

Function Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway (PubMed:34497368). 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) (PubMed:35216969). 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 {ECO:0000250|UniProtKB:P21708}. Nucleus. Membrane, caveola {ECO:0000250|UniProtKB:P21708}. Cell junction, focal adhesion {ECO:0000250|UniProtKB:Q63844} Note=Autophosphorylation at Thr-207 promotes nuclear localization (PubMed:19060905). PEA15-binding redirects the biological outcome of MAPK3 kinase-signaling by sequestering MAPK3 into the cytoplasm (By similarity). {ECO:0000250|UniProtKB:Q63844, ECO:0000269|PubMed:19060905}

Bi-Phospho-ERK1/2(T202/Y204) 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 Cytomety
- Cell Culture

Bi-Phospho-ERK1/2(T202/Y204) Antibody - Images

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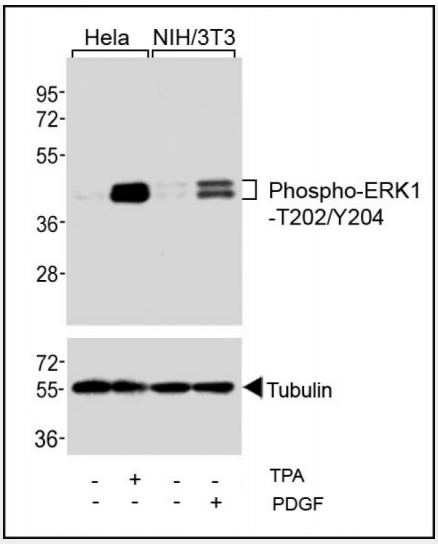
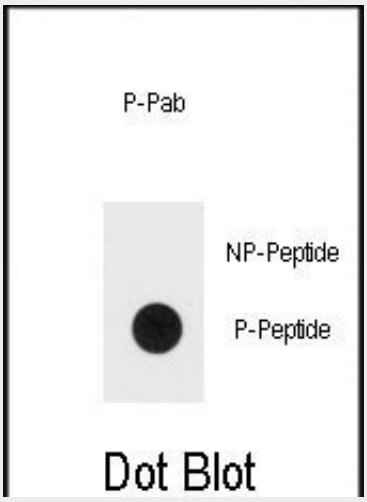


Western blot analysis of extracts from Hela cells, untreated or treated with TPA (200nM), and NIH/3T3 cells, untreated or treated with PDGF (100ng/ml), using Phospho-ERK1-T202/Y204 Antibody (upper) or Tubulin (lower).



Dot blot analysis of Bi-phospho-ERK1/2-T202/Y204 Antibody (Cat.#AP3607a) on nitrocellulose membrane. 50ng of Bisphospho-peptide or Non Phosphorylated peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

Bi-Phospho-ERK1/2(T202/Y204) Antibody - Background

MAPK3 is a member of the MAP kinase family. MAP kinases, also known as extracellular signal-regulated kinases (ERKs), act in a signaling cascade that regulates various cellular processes such as proliferation, differentiation, and cell cycle progression in response to a variety of extracellular signals. This kinase is activated by upstream kinases, resulting in its translocation to the nucleus where it phosphorylates nuclear targets.

Bi-Phospho-ERK1/2(T202/Y204) Antibody - References

Munshi, H.G., et al., J. Biol. Chem. 279(37):39042-39050 (2004).
Mukherjee, S., et al., Infect. Immun. 72(9):5274-5282 (2004).
Sebkova, L., et al., Infect. Immun. 72(9):5019-5026 (2004).
Huang, H.M., et al., Biochem. Biophys. Res. Commun. 320(4):1247-1252 (2004).
Mizuno, S., et al., Am. J. Respir. Cell Mol. Biol. 31(2):184-192 (2004).

Bi-Phospho-ERK1/2(T202/Y204) Antibody - Citations

- Integrin α6/Akt/Erk signaling is essential for human breast cancer resistance to radiotherapy.