

Anti-Phospho-Erk1 (T202/Y204) + Erk2 (T185/Y187) MAPK3 Rabbit Monoclonal Antibody

Catalog # ABO13212

Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	P27361
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid
Description	Anti-Phospho-Erk1 (T202/Y204) + Erk2 (T185/Y187) MAPK3 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human.

Additional Information

Gene ID	5595
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, Microtubule-associated protein 2 kinase, p44-ERK1, MAPK3, ERK1, PRKM3
Calculated MW	43136
Application Details	WB 1:500-1:2000 IHC 1:50-1:100 ICC/IF 1:50-1:100 FC 1:40
Subcellular Localization	Cytoplasm. Nucleus. Autophosphorylation at Thr-207 promotes nuclear localization.
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: IH-13
Immunogen	A synthesized peptide derived from human Phospho-Erk1 (T202/Y204) + Erk2 (T185/Y187)
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at

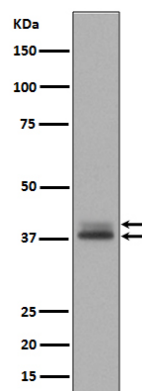
4°C for up to one month. Avoid repeated freeze-thaw cycles.

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. Phosphorylates GJA1 at 'Ser-279' and 'Ser-282' resulting in an increase in GJA1 ubiquitination and ultimately lysosomal degradation (By similarity).
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}

Images

Western blot analysis of Phospho- Erk1 (T202/Y204) + Erk2 (T185/Y187) expression in A431 cell lysate treated with EGF.



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