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PRODUCT DATASHEET

Anti-ERK1/2 (MAPK) (Thr-202/Tyr-204) [conserved], Phosphospecific Antibody

phosphosolutions ANTIBODIES THAT WORK

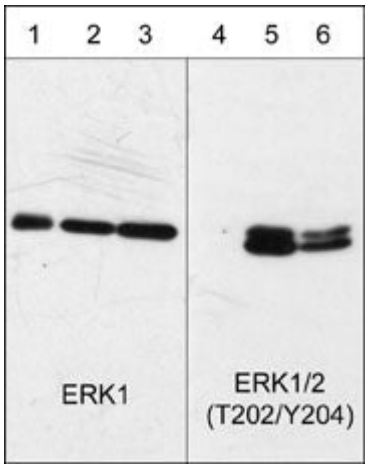
Product Details

Available Variants	100 µL (SKU:EM2061)
Conjugate	Unconjugated
Isotype	IgG1
Clone	M206
Gene Name	MAPK1
Host Species	Mouse
Format	Protein A Purified
Physical State	Liquid
Buffer	PBS + 1 mg/ml BSA, 0.05% NaN3 and 50% glycerol
Applications	ELISA, ICC, WB
Dilution Ranges	WB: 1:1000 ICC: 1:100
Species Reactivity	Human, Mouse, Rat
Immunogen	Clone M206 was generated from a dual phosphorylated ERK1 (Thr-202/Tyr-204) synthetic peptide (coupled to carrier protein) corresponding to amino acids surrounding Thr-202 and Tyr-204 in human ERK1. This sequence is conserved in rat and mouse ERK1, and is highly conserved in ERK2.
Specificity	The antibody detects 42 and 44 kDa* proteins corresponding to ERK1 and ERK2 on SDS-PAGE immunoblots of human A431 epithelial cells stimulated with EGF or calyculin A. It does not detect bands in control cells.
Molecular Weight	42/44
Quality Control	Western blots performed on each lot.

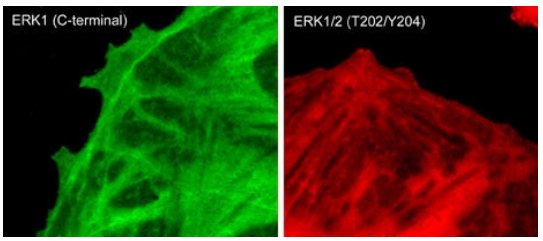
Storage	Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.
UniProt ID	P28482 UniProt Summary: Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. 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. Phosphorylates CDK2AP2. Phosphorylates phosphoglycerate kinase PGK1 under hypoxic conditions to promote its targeting to the mitochondrion and suppress the formation of acetyl-coenzyme A from pyruvate. Phosphorylates GJA1 at 'Ser-279' and 'Ser-282' resulting in an increase in GJA1 ubiquitination and ultimately lysosomal degradation.
Country of Origin	United States
Shipping	Blue Ice

Expiration	After date of receipt, stable for at least 1 year at -20°C.
Usage Statement	For research use only. Not intended for therapeutic or diagnostic use. Use of all products is subject to our terms and conditions, which can be viewed on our website.
Post Translational Modification Type	GOmAb/Phosphorylated
NCBI Gene ID	5594

Product Images



Western blot analysis of human A431 epithelial cells untreated (lanes 1 & 4) or treated with 100 nM calyculin A for 30 min. (lanes 2 & 5) or 100 ng/ml EGF for 60 min. (lanes 3 & 6). The blots were probed with anti-ERK1 (C-terminal region) (lanes 1, 2, & 3) or anti-ERK1/2 (Thr-202/Tyr-204) (lanes 4, 5, & 6).



Immunocytochemical labeling of phosphorylated ERK1 in paraformaldehyde-fixed and NP-40-permeabilized rat A7r5 cells treated with calyculin A. The fixed cells were labeled with mouse monoclonal antibodies to anti-ERK1 (EM2331) and anti-ERK1/2 (Thr-202/Tyr-204) (EM2061). The antibodies were detected using Goat anti-Mouse secondary antibodies conjugated to DyLight® 488 (left) and DyLight® 594 (right).