

Anti-ERK2 Monoclonal Antibody

Catalog # ABO14349

Product Information

Application	WB, IHC, IF, ICC, IP, FC
Primary Accession	P28482
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-ERK2 Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	5594
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 (HGNC:6871), ERK2, PRKM1, PRKM2
Calculated MW	41390
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200 IP 1:40 FC 1:40
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: II-13
Immunogen	A synthesized peptide derived from human ERK2 Act as an integration point for multiple biochemical signals, and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and development. The activation of ERK2 requires its phosphorylation by upstream kinases. ERK2 is located in the cytoplasm of resting cells and translocates into the nucleus upon extracellular stimuli by active transport of a dimer. ERK2 is essential for placental development and ERK2 in the trophoblast compartment may be indispensable for the vascularization of the labyrinth.
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.
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Protein Information

Name	MAPK1 (HGNC:6871)
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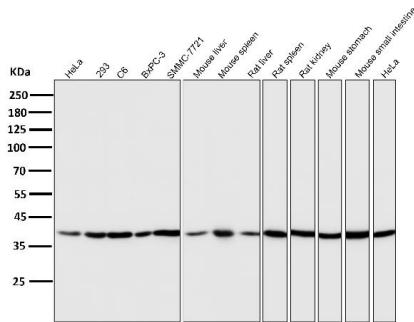
Synonyms	ERK2, PRKM1, PRKM2
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Function	Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK1/ERK2 and MAPK3/ERK1 are the 2 MAPKs which play an important role in the MAPK/ERK cascade. They participate 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, GLI1 or GRB10) (PubMed:35831023). 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 (By similarity). Phosphorylates phosphoglycerate kinase PGK1 under hypoxic conditions to promote its targeting to the mitochondrion and suppress the formation of acetyl-coenzyme A from pyruvate (PubMed:26942675). Phosphorylates GJA1 at 'Ser-279' and 'Ser- 282' resulting in an increase in GJA1 ubiquitination and ultimately lysosomal degradation (By similarity). Acts as a positive regulator of smoothened signaling by mediating phosphorylation of GLI1 in response to smoothened activation, promoting its dissociation from SUFU inhibitor and translocation to the nucleus (PubMed:35831023).
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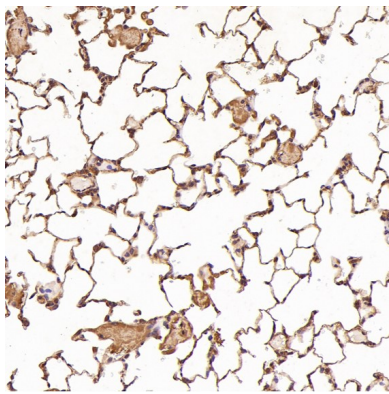
Cellular Location	Cytoplasm, cytoskeleton, spindle. Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm. Membrane, caveola {ECO:0000250 UniProtKB:P63086}. Cell junction, focal adhesion {ECO:0000250 UniProtKB:P63085}. Note=Associated with the spindle during prometaphase and metaphase (By similarity). PEA15-binding and phosphorylated DAPK1 promote its cytoplasmic retention. Phosphorylation at Ser- 246 and Ser-248 as well as autophosphorylation at Thr-190 promote
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nuclear localization.

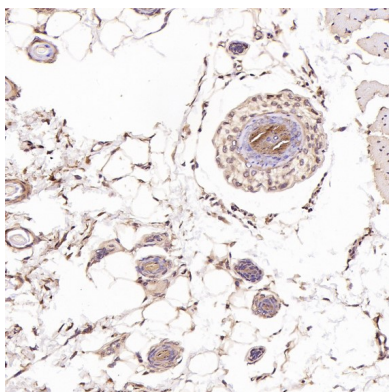
Images



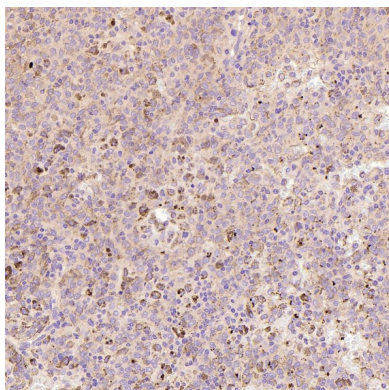
All lanes use the Antibody at 1:2K dilution for 1 hour at room temperature.



Immunohistochemical analysis of paraffin-embedded Rat lung, using the Antibody at 1:100 dilution.

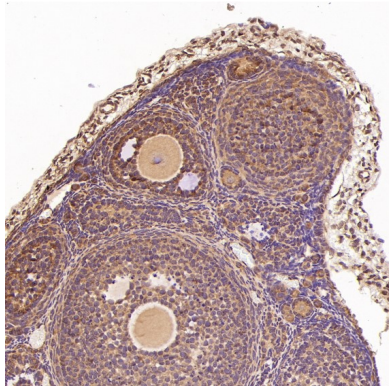
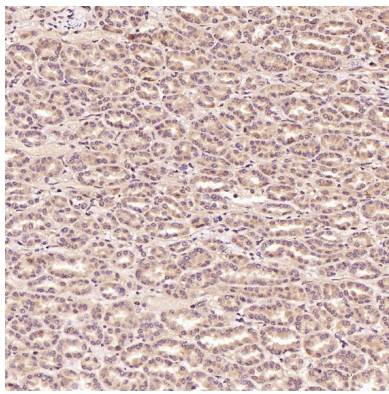


Immunohistochemical analysis of paraffin-embedded Rat skin, using the Antibody at 1:100 dilution.

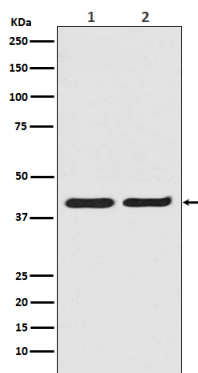


Immunohistochemical analysis of paraffin-embedded Human melanoma, using the Antibody at 1:100 dilution.

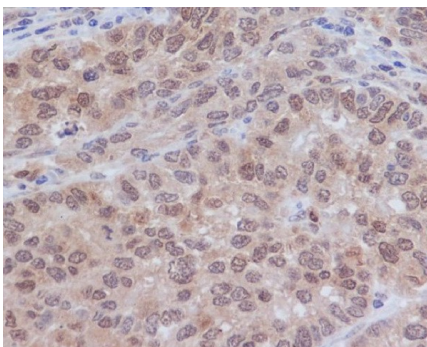
Immunohistochemical analysis of paraffin-embedded Human renal cancer, using the Antibody at 1:100 dilution.



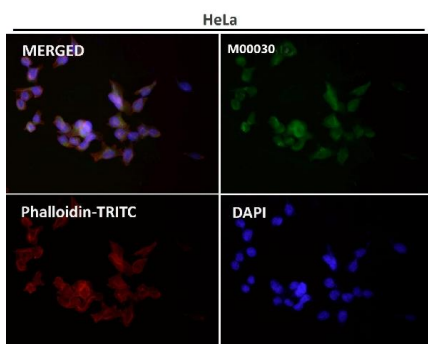
Immunohistochemical analysis of paraffin-embedded Mouse ovary, using the Antibody at 1:100 dilution.



Western blot analysis of ERK2 in (1) A431 cell lysate; (2) HeLa cell lysate.



Immunohistochemical analysis of paraffin-embedded human gastric adenocarcinoma, using ERK2 Antibody.



Immunofluorescent analysis using the Antibody at 1:50 dilution.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.