



Rabbit Anti-phospho-ERK1 (Thr197 + Thr202) antibody

SL3292R

Product Name:	phospho-ERK1 (Thr197 + Thr202)
Chinese Name:	磷酸化丝裂原活化蛋白激酶1/2抗体
Alias:	phospho-ERK1(Thr197/Thr202); p-ERK1(Thr197/Thr202); ERK 1; ERK 2; ERK-2; ERK1; ERK2; ERT1; ERT2; Extracellular signal regulated kinase 1; Extracellular signal regulated kinase 1; Extracellular signal regulated kinase 2; Extracellular signal regulated kinase 2; Extracellular signal-regulated kinase 2; HS44KDAP; HUMKER1A; Insulin stimulated MAP2 kinase; MAP kinase 1; MAP kinase 2; MAP kinase isoform p42; MAP kinase isoform p44; MAPK 1; MAPK 2; MAPK1; MAPK2; MGC20180; Microtubule associated protein 2 kinase; Mitogen activated protein kinase 1; Mitogen activated protein kinase 1; Mitogen activated protein kinase 2; Mitogen-activated protein kinase 1; Mitogen-activated protein kinase 2; MK01_MOUSE; p38; p40; p41; p41mapk; p42 MAPK; p42-MAPK; p42MAPK; p42MAPK; p44 ERK1; p44 MAPK; p44ERK1; p44ERK1; p44MAPK; p44MAPK; PRKM 1; PRKM 1; PRKM 2; PRKM 2; PRKM1; PRKM2; Protein kinase mitogen activated 1; Protein kinase mitogen activated 1; Protein kinase mitogen activated 2; Protein kinase mitogen activated 2; Protein tyrosine kinas.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Chicken,Dog,Cow,Horse,Rabbit,Guinea Pig,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	41kDa
Cellular localization:	The nucleuscytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml

immunogen:	KLH conjugated Synthesised phosphopeptide derived from human ERK1 around the phosphorylation site of Thr197/Thr202:DH(p-T)GFL(p-T)EY
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	<p>The protein encoded by this gene is a member of the MAP kinase family. MAP kinases, also known as extracellular signal-regulated kinases (ERKs), 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 this kinase requires its phosphorylation by upstream kinases. Upon activation, this kinase translocates to the nucleus of the stimulated cells, where it phosphorylates nuclear targets. Two alternatively spliced transcript variants encoding the same protein, but differing in the UTRs, have been reported for this gene.</p> <p>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 plays also 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, 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 of the MAPK/ERK signal to additional</p>

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 (By similarity). [FUNCTION] Acts as a transcriptional repressor. Binds to a [GC]AAA[GC] consensus sequence. Represses the expression of interferon gamma-induced genes. Seems to bind to the promoter of CCL5, DMP1, IFIH1, IFITM1, IRF7, IRF9, LAMP3, OAS1, OAS2, OAS3 and STAT1. Transcriptional activity is independent of kinase activity (By similarity).

Subunit:

Binds both upstream activators and downstream substrates in multimolecular complexes. Interacts with ADAM15, ARHGEF2, ARRB2, DAPK1 (via death domain), HSF4, IER3, IPO7, DUSP6, NISCH, SGK1, and isoform 1 of NEK2. Interacts (via phosphorylated form) with TPR (via C-terminus region and phosphorylated form); the interaction requires dimerization of MAPK1/ERK2 and increases following EGF stimulation (By similarity). Interacts (phosphorylated form) with CAV2 ('Tyr-19'-phosphorylated form); the interaction, promoted by insulin, leads to nuclear location and MAPK1 activation (By similarity). Interacts with DCC (By similarity). Interacts with MORG1, PEA15 and MKNK2. MKNK2 isoform 1 binding prevents from dephosphorylation and inactivation. The phosphorylated form interacts with PML (By similarity).

Subcellular Location:

Cytoplasm, cytoskeleton, spindle (By similarity). Nucleus. Cytoplasm, cytoskeleton, centrosome (By similarity). Cytoplasm. Note=Associated with the spindle during prometaphase and metaphase (By similarity). PEA15-binding and phosphorylated DAPK1 promote its cytoplasmic retention. Phosphorylation at Ser-244 and Ser-246 as well as autophosphorylation at Thr-188 promote nuclear localization (By similarity).

Tissue Specificity:

Widely expressed.

Post-translational modifications:

Dually phosphorylated on Thr-183 and Tyr-185, which activate the enzyme. Ligand-activated ALK induces tyrosine phosphorylation (By similarity). Dephosphorylated by PTPRJ at Tyr-185 (By similarity). Phosphorylated upon FLT3 and KIT signaling (By similarity).

Similarity:

Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. MAP kinase subfamily.

Contains 1 protein kinase domain.

SWISS:

P27361

Gene ID:
5595

Database links:

[Entrez Gene: 5594](#) Human

[Entrez Gene: 5595](#) Human

[Entrez Gene: 26413](#) Mouse

[Entrez Gene: 26417](#) Mouse

[Entrez Gene: 116590](#) Rat

[Entrez Gene: 50689](#) Rat

[Omim: 176948](#) Human

[Omim: 601795](#) Human

[SwissProt: P27361](#) Human

[SwissProt: P28482](#) Human

[SwissProt: P63085](#) Mouse

[SwissProt: Q63844](#) Mouse

[SwissProt: P21708](#) Rat

[SwissProt: P63086](#) Rat

[Unigene: 431850](#) Human

[Unigene: 861](#) Human

[Unigene: 196581](#) Mouse

[Unigene: 8385](#) Mouse

[Unigene: 2592](#) Rat

[Unigene: 34914](#) Rat

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This product as supplied is intended for research use only, not for use in human,

	therapeutic or diagnostic applications.
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