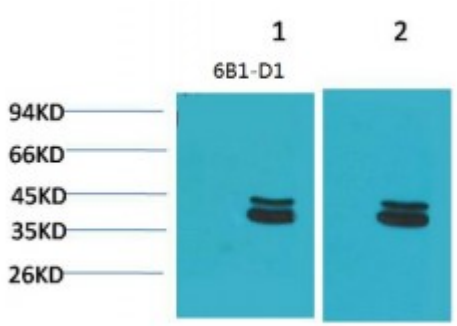
Anti-P44/42 MAPK (ERK1/2) antibody



Description	Mouse monoclonal to P44/42 MAPK (ERK1/2) (6B1).

Model	STJ97534
Host	Mouse
Reactivity	Human, Mouse, Rat
Applications	IHC, WB
Immunogen	Synthetic Peptide
Gene ID	5595
Gene Symbol	MAPK3
Dilution range	WB 1:1000-2000IHC 1:50-100
Specificity	P44/42 MAPK (ERK1/2) Mouse Monoclonal Antibody (6B1) detects endogenous levels of P44/42 MAPK (ERK1/2)
Purification	The antibody was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen.
Clone ID	6B1
Note	For Research Use Only (RUO).
Protein Name	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
Clonality	Monoclonal
Conjugation	Unconjugated

Isotype	IgG1
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:6877OMIM:601795
Alternative 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
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, 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.
Sequence and Domain Family	The TXY motif contains the threonine and tyrosine residues whose phosphorylation activates the MAP kinases.
Cellular Localization	Cytoplasm. Nucleus. Membrane, caveola. Autophosphorylation at Thr-207 promotes nuclear localization.
Post-translational Modifications	Phosphorylated upon KIT and FLT3 signaling . Dually phosphorylated on Thr-202 and Tyr-204, which activates the enzyme. Ligand-activated ALK induces tyrosine phosphorylation. Dephosphorylated by PTPRJ at Tyr-204.

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