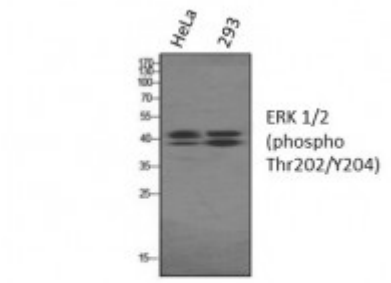
Anti-Phospho-ERK 1/2 (T202/Y204) antibody



Western Blot (WB) analysis of 1. HeLa 2. 293 using ERK 1/2 (phospho Thr202/Y204) Polyclonal Antibody. (STJ91357)

Description	ERK 1/2 is a protein encoded by the MAPK1 gene which is approximately 41,4 kDa. ERK 1/2 is localised to the cytoplasm and nucleus. It is involved in RET signalling, activated TLR4 signalling, IL-2 pathway, regulation of lipid metabolism and insulin signalling-generic cascades. This protein falls under the MAP kinase family. It is a serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. It also acts as an integration point for multiple biochemical signals, and is involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and development. ERK 1/2 is expressed in the nervous system, blood, lung, liver and skin. Mutations in the MAPK1 gene may result in small intestine neuroendocrine neoplasm and pertussis. STJ91357 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This primary antibody specifically binds to endogenous ERK 1/2 protein which only binds about T202/Y204 when T202/Y204 is phosphorylated.
Model	STJ91357
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IHC, WB
Immunogen	Synthesized peptide derived from human ERK 1/2 around the phosphorylation site of T202 and Y204.
Immunogen Region	140-220 aa
Gene ID	5595
Gene Symbol	MAPK3

Dilution range	WB 1:500-1:2000IHC 1:100-1:300ELISA 1:20000
Specificity	Phospho-ERK 1/2 (T202/Y204) Polyclonal Antibody detects endogenous levels of ERK 1/2 protein only when phosphorylated at T202 or Y204.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
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
Molecular Weight	42/44 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
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.