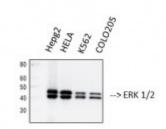


## Anti-ERK 1/2 antibody



Western Blot (WB) analysis of 1. Hepg2 2. Hela 3. K562 4. COLO205 cells using ERK 1/2 Polyclonal Antibody. (STJ92990)



**Description** ERK 1/2 is a protein encoded by

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. STJ92990 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of ERK 1/2.

Model STJ92990

**Host** Rabbit

**Reactivity** Human, Mouse, Rat

**Applications** ELISA, IHC, WB

**Immunogen** Synthesized peptide derived from human ERK 1/2

**Immunogen Region** 300-380 aa, C-terminal

**Gene ID** <u>5595</u>

Gene Symbol MAPK3

**Dilution range** WB 1:500-1:2000IHC 1:100-1:300ELISA 1:10000

**Specificity** ERK 1/2 Polyclonal Antibody detects endogenous levels of ERK 1/2 protein.

**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:68770MIM: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. 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 Phosphorylated upon KIT and FLT3 signaling . Dually phosphorylated on Modifications Thr-202 and Tyr-204, which activates the enzyme. Ligand-activated ALK

induces tyrosine phosphorylation. Dephosphorylated by PTPRJ at Tyr-204.

St John's Laboratory Ltd

**Sequence and Domain Family** 

**F** +44 (0)207 681 2580 **T** +44 (0)208 223 3081

W http://www.stjohnslabs.com/ E info@stjohnslabs.com