

## Recombinant Mouse Mapk1 Protein, Myc/DDK-tagged

Cat. No. Mapk1-3937M Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Purified recombinant protein of mouse full-length mitogen-activated protein kinase 1 (Mapk1), with C-terminal MYC/DDK tag, expressed in HEK293T cells.

**Species** Mouse

**Source** HEK293

#### Description

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

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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 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.

<b>Molecular Mass</b>	41.7 kDa
<b>Purity</b>	> 80% as determined by SDS-PAGE and Coomassie blue staining
<b>Stability</b>	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
<b>Storage</b>	Store at -80 centigrade after receiving vials.
<b>Concentration</b>	>50 µg/mL as determined by microplate BCA method
<b>Storage Buffer</b>	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

## GENE INFORMATION

**Gene Name** [Mapk1 mitogen-activated protein kinase 1 \[ Mus musculus \(house mouse\) \]](#)

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<b>Official Symbol</b>	<a href="#">Mapk1</a>
<b>Synonyms</b>	MAPK1; mitogen-activated protein kinase 1; ERT1; ERK-2; MAPK 1; MAPK 2; p42-MAPK; MAP kinase 1; MAP kinase 2; MAP kinase isoform p42; mitogen activated protein kinase 1; mitogen-activated protein kinase 2; extracellular signal-regulated kinase 2; ERK; Erk2; MAPK2; PRKM2; Prkm1; C78273; p41mapk; p42mapk; AA407128; AU018647; 9030612K14Rik
<b>Gene ID</b>	<a href="#">26413</a>
<b>mRNA Refseq</b>	<a href="#">NM_011949</a>
<b>Protein Refseq</b>	<a href="#">NP_036079</a>
<b>UniProt ID</b>	<a href="#">P63085</a>

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