Recombinant Human MAPK3 Protein (A2-P379), Tag Free

Cat. No. MAPK3-1082H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human ERK1 (A2-P379 end) Protein was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	A2-P379
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

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	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.
Form	Liquid
Endotoxin	< 0.01 EU per μg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

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Gene Name	MAPK3 mitogen-activated protein kinase 3 [Homo sapiens (human)]
Official Symbol	MAPK3
Synonyms	MAPK3; mitogen-activated protein kinase 3; PRKM3; ERK1; p44erk1; p44mapk; MAPK 1; MAP kinase 1; MAP kinase 3; MAP kinase isoform p44; insulin-stimulated MAP2 kinase; mitogen-activated protein kinase 1; extracellular signal-related kinase 1; extracellular signal-regulated kinase 1; microtubule-associated protein 2 kinase; ERT2; ERK-1; P44ERK1; P44MAPK; HS44KDAP; HUMKER1A; p44-ERK1; p44-MAPK; MGC20180;
Gene ID	5595
mRNA Refseq	NM_001040056
Protein Refseq	NP_001035145
MIM	601795
UniProt ID	P27361

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