Recombinant human biotinylated ERK1, His-tagged

Cat. No. MAPK3-28H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human biotinylated Extracellular signal-regulated kinase 1 (ERK1), N-terminally fused to HIS6, was expressed in E.coli. Protein is not phosphorylated and activated by MKKs. Suitable as substrate for kinase activity assays and for western blot analyses.
Species	Human
Source	E.coli
Description	Extracellular signal-regulated kinase (ERK) is a serine/threonine protein kinase that functions as the major effector of the Ras protein, a small GTPase. The so called "ERK cascade" consists of three enzymes, the initial GTPase-regulated kinase Raf, (MAP3K) that phosphorylates and activates an intermediate kinase MEK (MAP2K) that, in turn, phosphorylates a threonine and a tyrosine residue of the activation loop of the effector kinase ERK (MAPK). Both, ERK1 and ERK2 share a high sequence identity (90%) and are co-expressed in most tissues but differ in their relative abundance. The substrate specificities of the ERK1 and ERK2 protein kinases are very similar. The consensus sequence for ERK1 substrates has been identified as -Pro- Leu-Ser/Thr-Pro. Both kinases are involved in proliferation, differentiation, cell cycle processes, and survival. ERK1 / 2 differentially phosphorylates a variety of nuclear (Elk-1, c-Myc), cytosolic (MNK1/2, Raf) and cytoskeletal (MAP2, Tau) targets. Since the ERK pathway is often up-regulated in human tumors and it represents an attractive target for anticancer drugs development.

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Form	20 mM Tris-HCl, 150 mM NaCl, 1 mM DTT, 20% glycerol, pH 8.0.
Molecular Mass	43.1 kDa
Purity	>90%
Storage	- 80°C (avoid repeated freeze-thaw cycles !)
Concentration	0.6 mg/ml (Bradford method using BSA as standard protein)
Conjugation	Biotin

GENE INFORMATION

Gene Name	MAPK3 mitogen-activated protein kinase 3 [Homo sapiens]
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

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MIM	601795
UniProt ID	P27361
Chromosome Location	16p11.2
Pathway	ALK1 signaling events, organism-specific biosystem; ARMS-mediated activation, organism-specific biosystem; ATF-2 transcription factor network, organism-specific biosystem; Activated TLR4 signalling, organism-specific biosystem; Activation of the AP-1 family of transcription factors, organism-specific biosystem; Acute myeloid leukemia, organism-specific biosystem; Acute myeloid leukemia, conserved biosystem;
Function	ATP binding; MAP kinase activity; MAP kinase activity; nucleotide binding; phosphatase binding; phosphotyrosine binding; protein binding; protein serine/threonine kinase activity;

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