

Biotinylated Recombinant Human ERK2, His-tagged

Cat. No. MAPK1-27H Lot. No. (See product label)

SPECIFICATION

Product Overview Human recombinant biotinylated ERK2, inactive, fused with N-His tag, was expressed in E.coli. Biotinylated protein is not phosphorylated and activated by MKKs. Suitable for kinase molecule interaction analyses using SPR, 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, 2 mM DTT, 20% glycerol, pH 8.0.
Molecular Mass	42.8 kDa
Purity	>95%
Storage	- 80°C (avoid repeated freeze-thaw cycles !)
Concentration	0.27 mg/ml (Bradford method using BSA as standard protein)
Conjugation	Biotin
GENE INFORMATION	
Gene Name	MAPK1 mitogen-activated protein kinase 1 [Homo sapiens]
Official Symbol	MAPK1
Synonyms	MAPK1; mitogen-activated protein kinase 1; PRKM1, PRKM2; ERK; ERK2; MAPK2; p41mapk; ERK-2; MAPK 2; p42-MAPK; MAP kinase 1; MAP kinase 2; MAP kinase isoform p42; protein tyrosine kinase ERK2; mitogen-activated protein kinase 2; extracellular signal-regulated kinase 2; p38; p40; p41; ERT1; PRKM1; PRKM2; P42MAPK;
Gene ID	5594
mRNA Refseq	NM_002745
Protein Refseq	NP_002736
MIM	176948

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UniProt ID	P28482
Chromosome Location	22q11.2
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 NMDA receptor upon glutamate binding and postsynaptic events, organism-specific biosystem; Activation of the AP-1 family of transcription factors, organism-specific biosystem; Acute myeloid leukemia, organism-specific biosystem;
Function	ATP binding; DNA binding; MAP kinase activity; RNA polymerase II carboxy-terminal domain kinase activity; mitogen-activated protein kinase kinase kinase binding; nucleotide binding; phosphatase binding; phosphotyrosine binding; protein binding; protein serine/threonine kinase activity; transcription factor binding;

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