

Recombinant Human MAP2K1, His-tagged

Cat. No. MAP2K1-596H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human MAP2K1 produced in Sf9 cells is a glycosylated, polypeptide chain containing amino acids 2-393 having a molecular mass of 47 kDa. MAP2K1 is fused to a his tag and is purified by proprietary chromatographic techniques.
Species	Human
Source	Sf9 Cells
Protein Length	2-393 a.a.
Description	MAP2K1 is a member of the dual specificity protein kinase family, which plays a role as a mitogen-activated protein (MAP) kinase kinase. MAP kinases, are recognized as extracellular signal-regulated kinases (ERKs), that act as an integration position for multiple biochemical signals. MEK1 is located upstream of MAP kinases and stimulates the enzymatic activity of MAP kinases upon wide variety of extra- and intracellular signals. As a key player of MAP kinase signal transduction pathway, MEK1 is involved in many cellular processes such as proliferation, differentiation, transcription regulation and development.
Physical Appearance	Sterile Filtered clear solution.
Formulation	MEK1 is supplied at a concentration of 0.09mg/ml in 40mM Tris, pH-8, 0.15M NaCl, 0.27M sucrose, 1mM DTT, 0.2mM PMSF, 1mM benzamidine, 0.1mM sodium vanadate and 0.03% Brij-35.

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Purity	Greater than 90% as determined by SDS-PAGE.
Biological Activity	~125-175 units/mg. One unit of MEK1 activity transfers 1 nmol of phosphate to ERK1/2 peptide per minute at 30°C in a reaction containing 100µM ATP. Recombinant active MEK1 also phosphorylates ERK1, ERK2, and GSK-3α. Kinase activity may vary depending on the substrate and reaction conditions. The optimal concentration should be determined for each specific application. Storage Conditions: Store at 4°C if entire vial will be used within 1-2 weeks. Store frozen at -20°C for longer periods of time. Avoid multiple freeze-thaw cycles.

GENE INFORMATION

Gene Name	MAP2K1 mitogen-activated protein kinase kinase 1 [Homo sapiens]
Synonyms	MAP2K1; mitogen-activated protein kinase kinase 1; MEK1; MKK1; MAPKK1; PRKMK1; protein kinase, mitogen-activated, kinase 1 (MAP kinase kinase 1); EC 2.7.12.2; ERK activator kinase 1; MAP kinase kinase 1; MAPK/ERK kinase 1
Gene ID	5604
mRNA Refseq	NM_002755
Protein Refseq	NP_002746
MIM	176872
UniProt ID	Q02750
Chromosome Location	15q22.1-q22.33

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Pathway

Acute myeloid leukemia; B cell receptor signaling pathway; Bladder cancer; Chemokine signaling pathway; Chronic myeloid leukemia; Colorectal cancer; Dorsal-ventral axis formation; Endometrial cancer; ErbB signaling pathway; Fc epsilon RI signaling pathway; Fc gamma R-mediated phagocytosis; Focal adhesion; Gap junction; Glioma; GnRH signaling pathway; Insulin signaling pathway; Long-term depression; Long-term potentiation; MAPK signaling pathway; Melanogenesis; Melanoma; Natural killer cell mediated cytotoxicity; Neurotrophin signaling pathway; Non-small cell lung cancer; Pancreatic cancer; Pathways in cancer; Prion diseases

Function

ATP binding; MAP kinase kinase activity; Ras GTPase binding; mitogen-activated protein kinase kinase kinase binding; nucleotide binding; protein binding; protein serine/threonine kinase activity; protein tyrosine kinase activity; receptor signaling protein tyrosine phosphatase activity; transferase activity

PDB rendering based on 1s9j.

