Recombinant human biotinylated MAP2K4, His-tagged

Cat. No. MAP2K4-33H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human biotinylated MAP2K4, N-terminally fused to HIS6, was expressed in E.coli. Biotinylated protein is not phosphorylated and activated by MKKs. It is suitable as substrate for kinase activity assays and for western blot analyses.
Species	Human
Source	E.coli
Description	MKK4 is a dual specificity kinase belonging to the group of MAP kinase kinase (MKKs). MKKs are one part of three-kinase phosphorelay system "MAPK cascade" that converts extra cellular stimuli into various cellular responses such as gene expression, mitosis, and differentiation, proliferation, and cell survival/apoptosis. MKK4 as well as MKK7 are critical upstream activators of JNK signalling required for developmental programmes and responses to various extracellular stimuli. Upon phosphorylation at Ser and Thr residues within a Ser-X-Ala-Lys-Thr motif in their activation loops by MKKKs (e.g. ASK, MEKK, MLK, and TAK) activated MKK4 is able to in turn activate JNK by dual phosphorylation of the Thr-Pro-Tyr motif. Biochemical analyses of JNK signalling revealed, that MKK4 and MKK7 cooperate in activation process of JNK. Upon phosphorylation of the Tyr residue mediated by MKK4 full activation of JNK is achieved by Thr-phosphorylation triggered by MKK7. Whereas MKK3 and MKK6 are specific p38MAPK activators different studies showed that p38α is regulated by MKK4 too. MKK4 is involved in a variety of physiological and pathophysiological processes, especially in the nervous system, heart, immune

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	system and the development of cancer.Recent studies revealed, that over expression of the mkk4 gene in an ovarian cancer line is linked with a reduced proliferative activity and increased apoptosis, indicating that MKK4 acts as a tumor suppressor and may represent an important therapeutic target for the treatment of ovarian cancer.
Form	20 mM Tris-HCl, 150 mM NaCl, 1 mM DTT, 20 % glycerol, pH 8.0.
Molecular Mass	45.9 kDa
Purity	>90% (The purified fusion protein was analyzed on Coomassie stained SDS gel.)
Storage	- 80°C (avoid repeated freeze-thaw cycles !)
Concentration	0.19 mg/ml
Conjugation	Biotin

GENE INFORMATION

Gene Name	MAP2K4 mitogen-activated protein kinase kinase 4 [Homo sapiens]
Official Symbol	MAP2K4
Synonyms	MAP2K4; mitogen-activated protein kinase kinase 4; SERK1; dual specificity mitogen-activated protein kinase kinase 4; JNKK1; MEK4; MKK4; PRKMK4; MEK 4; MAPKK 4; SAPK kinase 1; MAPK/ERK kinase 4; SAPK/ERK kinase 1; MAP kinase kinase 4; JNK-activated kinase 1; JNK activating kinase 1; JNK-activating kinase 1; c-Jun N-terminal kinase kinase 1; stress-activated protein kinase kinase 1; JNKK; SEK1; MAPKK4; SAPKK1; SAPKK-1;

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Gene ID	6416
mRNA Refseq	NM_003010
Protein Refseq	NP_003001
MIM	601335
UniProt ID	P45985
Chromosome Location	17p12
Pathway	Activated TLR4 signalling, organism-specific biosystem; Apoptosis, organism-specific biosystem; CD40/CD40L signaling, organism-specific biosystem; CDC42 signaling events, organism-specific biosystem; Cellular roles of Anthrax toxin, organism-specific biosystem; Ceramide signaling pathway, organism-specific biosystem; Chagas disease (American trypanosomiasis), organism-specific biosystem;
Function	ATP binding; nucleotide binding; protein binding; protein kinase activity; protein serine/threonine kinase activity; protein tyrosine kinase activity;

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