Recombinant Human Mitogen-activated Protein Kinase 9

Cat. No. MAPK9-45H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human JNK2 produced in*E.coli*is a soluble 51 kDa protein (amino acids 2-424) that is activated in response to cellular stress, radiation and growth factors.
Species	Human
Source	E.coli
ProteinLength	2-424 a.a.
Description	JUN N-terminal Kinase 2 is a member of the MAP kinase family. MAP kinases act as an integration point for multiple biochemical signals, and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and development. This kinase targets specific transcription factors, and thus mediates immediate-early gene expression in response to various cell stimuli. It is most closely related to MAPK8, both of which are involved in UV radiation induced apoptosis, thought to be related to the cytochrome c-mediated cell death pathway. This gene and MAPK8 are also known as c-Jun N-terminal kinases. This kinase blocks the ubiquitination of tumor suppressor p53, and thus it increases the stability of p53 in nonstressed cells. Studies of this gene"s mouse counterpart suggest a key role in T-cell differentiation. Four alternatively spliced transcript variants encoding distinct isoforms have been reported.
Amino Acid Sequence	MSDSKCDSQFYSVQVADSTFTVLKRYQQLKPIGSGAQGIVCAAFDTVLGINVAVKKL SRPFQNQTHAKRAYRELVLLKCVNHKNIISLLNVFTPQKTLEEFQDVYLVMELMDAN

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	LCQVIHMELDHERMSYLLYQMLCGIKHLHSAGIIHRDLKPSNIVVKSDCTLKILDFGLA RTACTNFMMTPYVVTRYYRAPEVILGMGYKENVDIWSVGCIMGELVKGCVIFQGTD HIDQWNKVIEQLGTPSAEFMKKLQPTVRNYVENRPKYPGIKFEELFPDWIFPSESER DKIKTSQARDLLSKMLVIDPDKRISVDEALRHPYITVWYDPAEAEAPPPQIYDAQLEE REHAIEEWKELIYKEVMDWEERSKNGVVKDQPSDAAVSSNATPSQSSSINDISSMS TEQTLASDTD SSLDASTGPLEGCRGGGSHH HHHH
Purity	Greater than 95% as determined by SDS-PAGE.
Physical Appearance	Sterile Filtered clear solution.
Formulation	The protein concentration is 0.32mg/ml in 50mM Tris, pH 7.5, 0.15M NaCl, 0.27M sucrose, 10mMβ-mercaptoethanol, 1mM EDTA and 0.1% Triton X-100.
Unit Definition	200 units/mg. One unit of JNK2α2 activity is equal to 1nm of phosphate transferred to recombinant ATF-2 fusion protein per minute at 30°C with a final ATP concentration of 100 μM. Recombinant active JNK2α2 is capable of autophosphorylation and also phosphorylates c-Jun at serine 63 and serine 73. Kinase activity may vary depending on the substrate and reaction conditions. The optimal concentration should be determined for each specific application. JNK2α2 is longer than JNK2α1, and differs from JNK2α1 in that it contains additional C terminal sequences
Storage	Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. Avoid multiple freeze-thaw cycles.

GENE INFORMATION

Gene Name	MAPK9 mitogen-activated protein kinase 9 [Homo sapiens]
Synonyms	MAPK9; mitogen-activated protein kinase 9; JNK2; SAPK; p54a; JNK2A; JNK2B;

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	PRKM9; JNK-55; JNK2BETA; p54aSAPK; JNK2ALPHA; Jun kinase; ; MAP kinase 9; c-Jun kinase 2; OTTHUMP00000161542; OTTHUMP00000161543; c-Jun N-terminal kinase 2; stress-activated protein kinase JNK2; mitogen-activated protein kinase 9 isoform JNK2 alpha2; EC 2.7.11.24; Mitogen-activated protein kinase 9; Stress-activated protein kinase JNK2
Gene ID	5601
mRNA Refseq	NM_001135044
Protein Refseq	NP_001128516
MIM	602896
UniProt ID	P45984
Chromosome Location	5q35
Pathway	Adipocytokine signaling pathway; Colorectal cancer; Epithelial cell signaling in Helicobacter pylori infection; ErbB signaling pathway; Fc epsilon RI signaling pathway; Focal adhesion; GnRH signaling pathway; Insulin signaling pathway; MAPK signaling pathway; Neurotrophin signaling pathway; Pancreatic cancer; Pathways in cancer; RIG-I-like receptor signaling pathway; T cell receptor signaling pathway; Toll-like receptor signaling pathway; Type II diabetes mellitus; Wnt signaling pathway
Function	ATP binding; JUN kinase activity; MAP kinase activity; nucleotide binding; protein binding; protein serine/threonine kinase activity; transferase activity

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