

Dual specificity mitogen-activated protein kinase kinase 4 Recombinant Protein | Map2k4 recombinant protein

Recombinant Mouse Dual specificity mitogen-activated protein kinase kinase 4

CATALOG # AAA113320	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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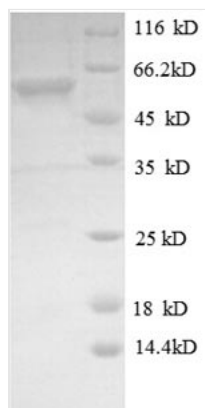
PRODUCT SYNONYMS

Dual specificity mitogen-activated protein kinase kinase 4; Recombinant Mouse Dual specificity mitogen-activated protein kinase kinase 4; C-JUN N-terminal kinase kinase 1; JNK kinase 1; JNKK 1; JNK-activating kinase 1; MAPK/ERK kinase 4; MEK 4; SAPK/ERK kinase 1; SEK1; Map2k4 recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	2-397aa; Full Length of Mature Protein
Sequence	AAPSPSGGGG SGGGGGTPGP IGPPASGHPA VSSMQGKRKA LKLNFPNPV KSTARFTLNP NTTGVQNPHI ERLRTHSIES SGKLKISPEQ HWDFTAEDLK DLGEIGRGAY GSVNKMVHKP SGQIMAVKRI RSTVDEKEQK QLLMDLDVVM RSSDCPYIVQ FYGALFREGD CWICMELMST SFDKFYKYVY SVLDDVIPEE ILGKITLATV KALNHLKENL KIIHRDIKPS NILLDRSGNI KLCDFGISGQ LVDSIAKTRD AGCRPYMAPE RIDPSASRQG YDVRSDVWSL GITLYELATG RFPYPKWNSV FDQLTQVVKG DPPQLSNSEE REFSPSFINF VNLCLTKDES KRPKYKELLK HPFILMYEER TVEVACYVCK ILDQMPATPS SPMYVD
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for Map2k4 recombinant protein	Dual specificity protein kinase which acts as an essential component of the MAP kinase signal transduction pathway. Essential component of the stress-activated protein kinase/c-Jun N-terminal kinase (SAP/JNK) signaling pathway. With MAP2K7/MKK7, is the one of the only known kinase to directly activate the stress-activated protein kinase/c-Jun N-terminal kinases MAPK8/JNK1, MAPK9/JNK2 and MAPK10/JNK3. MAP2K4/MKK4 and MAP2K7/MKK7 both activate the JNKs by phosphorylation, but they differ in their preference for the phosphorylation site in the Thr-Pro-Tyr motif. MAP2K4 shows preference for phosphorylation of the Tyr residue and MAP2K7/MKK7 for the Thr residue. The phosphorylation of the Thr residue by MAP2K7/MKK7 ses to be the prerequisite for JNK activation at least in response to proinflammatory cytokines, while other stimuli activate both MAP2K4/MKK4 and MAP2K7/MKK7 which synergistically phosphorylate JNKs. MAP2K4 is required for maintaining peripheral lymphoid homeostasis. The MKK/JNK signaling pathway is also involved in mitochondrial death signaling pathway, including the release cytochrome c, leading to apoptosis. Whereas MAP2K7/MKK7 exclusively activates JNKs, MAP2K4/MKK4 additionally activates the p38 MAPKs MAPK11, MAPK12, MAPK13 and MAPK14.
References	Role of SAPK/ERK kinase-1 in the stress-activated pathway regulating transcription factor c-Jun.Sanchez I., Hughes R.T., Mayer B.J., Yee K., Woodgett J.R., Avruch J., Kyriakis J.M., Zon L.I.Nature 372:794-798(1994) Zon L.I.SEK1/MKK4 is required for maintenance of a normal peripheral lymphoid compartment but not for lymphocyte development.Swat W., Fujikawa K., Ganiatsas S., Yang D., Xavier R.J., Harris N.L., Davidson L., Ferrini R., Davis R.J., Labow M.A., Flavell R.A., Zon L.I., Alt F.W.Immunity 8:625-634(1998) The MKK7 gene encodes a group of c-Jun NH2-terminal kinase kinases.Tournier C., Whitmarsh A.J., Cavanagh J., Barrett T., Davis R.J.Mol. Cell. Biol. 19:1569-1581(1999) Dynamic expression of SEK1 suggests multiple roles of the gene during embryogenesis and in adult brain of mice.Lee J.K., Hwang W.S., Lee Y.D., Han P.L.Brain Res. Mol. Brain Res. 66:133-140(1999) MKK7 is an essential component of the JNK signal transduction pathway activated by proinflammatory cytokines.Tournier C., Dong C., Turner T.K., Jones S.N., Flavell R.A., Davis R.J.Genes Dev. 15:1419-1426(2001) A subdomain of MEKK1 that is critical for binding to MKK4.Tu Z., Mooney S.M., Lee F.S.Cell. Signal. 15:65-77(2003) Different properties of SEK1 and MKK7 in dual phosphorylation of stress-induced activated protein kinase SAPK/JNK in embryonic stem cells.Kishimoto H., Nakagawa K., Watanabe T., Kitagawa D., Momose H., Seo J., Nishitai G., Shimizu N., Ohata S., Tanemura S., Asaka S., Goto T., Fukushi H., Yoshida H., Suzuki A., Sasaki T., Wada T., Penninger J.M., Nishina H., Katada T.J. Biol. Chem. 278:16595-16601(2003) Targeted deletion of the mitogen-activated protein kinase kinase 4 gene in the nervous system causes severe brain developmental defects and premature death.Wang X., Nadarajah B., Robinson A.C., McColl B.W., Jin J.W., Dajas-Bailador F., Boot-Handford R.P., Tournier C.Mol. Cell. Biol. 27:7935-7946(2007) Cardiac-specific deletion of mkk4 reveals its role in pathological hypertrophic remodeling but not in physiological cardiac growth.Liu W., Zi M., Jin J., Prehar S., Oceandy D., Kimura T.E., Lei M., Neyses L., Weston A.H., Cartwright E.J., Wang X.Circ. Res. 104:905-914(2009) Differential regulation and properties of MAPKs.Raman M., Chen W., Cobb M.H.Oncogene 26:3100-3112(2007) Diverse physiological functions of MKK4 and MKK7 during early embryogenesis.Asaoka Y., Nishina H.J. Biochem. 148:393-401(2010) The bottleneck of JNK signaling molecular and functional characteristics of MKK4 and MKK7.Haeusgen W., Herdegen T., Waetzig V.Eur. J. Cell Biol. 90:536-544(2011) JLP a scaffolding protein that tethers JNK/p38MAPK signaling modules and transcription factors.Lee C.M., Onesime D., Reddy C.D., Dhanasekaran N., Reddy E.P.Proc. Natl. Acad. Sci. U.S.A. 99:14189-14194(2002)

NCBI AND UNIPROT INFORMATION

NCBI GI #	22095023
NCBI GeneID	26398
NCBI Accession #	NP_033183.1
NCBI GenBank Nucleotide #	NM_009157.5
UniProt Accession #	P47809
Molecular Weight	60 kDa
NCBI Official Full Name	dual specificity mitogen-activated protein kinase kinase 4 isoform b
NCBI Official Synonym Full Names	mitogen-activated protein kinase kinase 4
NCBI Official Symbol	Map2k4
NCBI Official Synonym Symbols	MEK4; MKK4; Sek1; JNKK1; Serk1; PRKMK4
NCBI Protein Information	dual specificity mitogen-activated protein kinase kinase 4

UniProt Protein Name	Dual specificity mitogen-activated protein kinase kinase 4
UniProt Gene Name	Map2k4
UniProt Synonym Gene Names	Jnkk1; Mek4; Mkk4; Prkmk4; Sek1; Serk1; Skk1; MAP kinase kinase 4; MAPKK 4; JNK kinase 1; JNKK 1; MEK 4; SEK1
UniProt Entry Name	MP2K4_MOUSE

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/map2k4-recombinant-protein-e-coli-or-yeast-or-baculovirus-or-mammalian-cell/113320>