

MKK4 (non-activated)

mitogen-activated protein kinase kinase 4

Recombinant Human Protein Kinase

HGNC Symbol: MAP2K4

Synonyms: JNKK, JNKK1, MAPKK4, MEK4, PRKMK4, SEK1, SERK1

Product No.: 0948-0000-2

Lot: 002

Description: Human MKK4, full length, amino acids M₁-D₃₉₉ (as in [NCBI/Protein](#) entry NP_003001.1), N-terminal HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Theoretical MW_{Fusion Protein}: 49,113 Da

Expression host: Sf9 insect cells

Purification: Immobilized Metal Affinity Chromatography

Activation: This kinase was not activated by special procedures

Storage buffer: 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 20 % glycerol

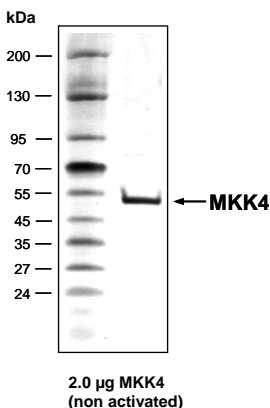
Storage temperature: -80°C

For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

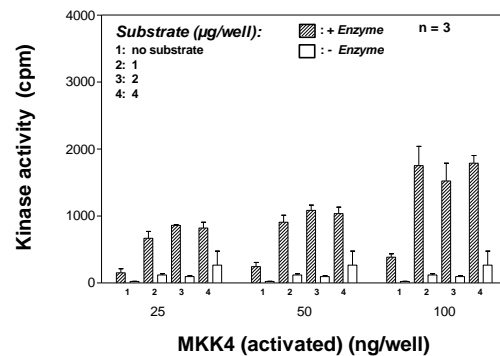
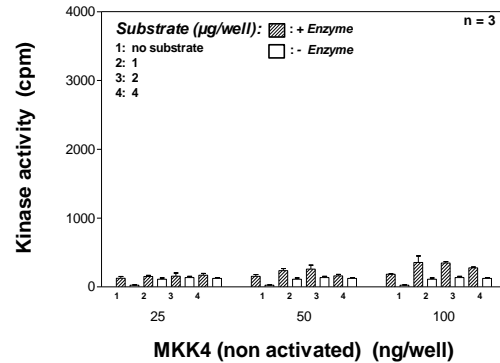
Protein concentration: 0.339 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

MKK4 (non activated) Lot 002:

Coomassie stain



Kinase activity MKK4 (non activated) vs activated MKK4:



Determination of MKK4 in-vitro activity:

- Assay conditions:
 - 60 mM HEPES-NaOH, pH 7.5
 - 3 mM MgCl₂
 - 3 mM MnCl₂
 - 3 µM Na-orthovanadate
 - 1.2 mM DTT
 - 50 µg/ml PEG_{20,000}
 - 1 µM ATP
 - Substrate (variable): JNK1 K55R/k56R
- MKK4 (non activated) or activated MKK4 (variable)
- ³³PanQinase® Assay

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HIS-MKK4 Recombinant Fusion Protein Amino Acid Sequence										
1	MSPIDPMG	HH	HHHGRRRAS	VAAGI	LVPRG	SPGLDGIYAR	GIQAS	MAAPS	PSGGGGSGGG	60
61	RGSGT	PGPVG	SPAPGHPAVS	SMQGKRKALK	LNANPPFKS	TARFTLNPNP	TGVQNP	PHIER		120
121	LRTHS	IESSG	KLKISPEQHW	DFTAEDLKD	GEIGRGAYGS	VNKMVHKPSG	QIMAVKR	IRS		180
181	TVDEKEQ	QQL	IMDLDVVMRS	SDCPYIVQFY	GALFREGDCW	ICMELMSTSF	DKFYKYV	YSV		240
241	LDDVI	PEEIL	GKITLATVKA	LNHLKENLKI	IHRDIKPSNI	LLDRSGNIKL	CDFGISG	QLV		300
301	DSIAKTRDAG	CRPYMAPERI	DPSASRQGYD	VRSDVWSLGI	TLYELATGRE	PYPKWNSVFD				360
361	QLTQVVKGDP	PQLSNSEERE	FSPSFINFVN	LCLTKDESKR	PKYKELLKHP	FILMYEERAV				420
421	EVACYVCKIL	DQMPATPSSP	MYVD							480

Red: HIS6-tag Pink: Thrombin cleavage site blue: MKK4

MKK4 wt ¹ Amino Acid Sequence							
1	MAAPSPSGGG	GSGGGSGSGT	PGPVGSPAPG	HNAVSSMQGK	RKALKLNAN	PPFKSTARFT	60
61	LNPNPTGVQN	PHIERLRTHS	IESSGKLKIS	PEQHWDFTA	DLKDLGEIGR	GAYGSVNKMV	120
121	HKPSGQIMAV	KRIRSTVDEK	EQQLLMDLD	VMRSSDCPY	IVQFYGALFR	EGDCWICMEL	180
181	MSTSFDFKFK	YVYVLDLDDVI	PEEILGITL	ATVKALNHLK	ENLKIHRDI	KPSNILLDRS	240
241	GNIKLCDLDFGI	SGQLVDSIAK	TRDAGCRPYM	APERIDPSAS	RQGYDVRSDV	WSLGITLYEL	300
301	ATGRFPYPKW	NSVFDQLTQV	VKGDPPQLSN	SEEREFSPSF	INFVNLCLTK	DESKRPKYKE	360
361	LLKHPFILMY	EERAVEVACY	VCKILDQMPA	TPSSPMYVD			420

blue: MKK4 sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_003001.1

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