

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: 003

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

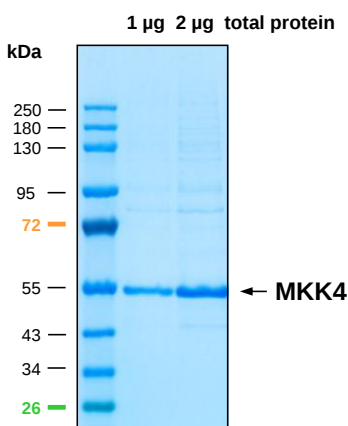
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.468 µg/µl

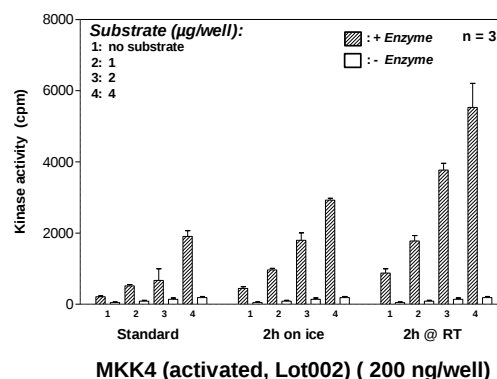
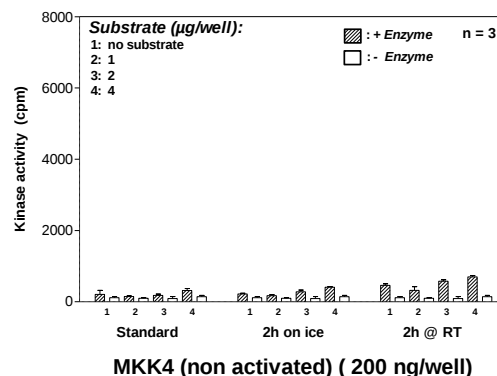
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

MKK4 (non activated) Lot 003:

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

activated MKK4: Reaction biology product #0948-0000-1

MKK4 (non activated)

Product No.: 0948-0000-2

HIS-MKK4 Recombinant Fusion Protein Amino Acid Sequence

1	MSPIDPMG	HH	HHHH	GRRRAS	VAAGI	LVPRG	SPGLDGIYAR	GIQAS	MAAPS	PSGGGSGGG	60
61	RSGGTPGPVG	SPAPGHPAVS	SMQGKRKALK	LNANPPFKS	TARFTLNPNP	TGVQNPHER					120
121	LRTHSIESSG	KLKISPEQHW	DFTAEDLKDL	GEIGRGAYGS	VNKMVHKPSG	QIMAVKRIRS					180
181	TVDEKEQKQL	LMDLVVMRS	SDCPYIVQFY	GALFREGDCW	ICMELMSTSF	DKFYKYVYSV					240
241	LDDVIPEEIL	GKITLATVKA	LNHLKENLKI	IHRDIKPSNI	LLDRSGNIKL	CDFGISGQLV					300
301	DSIAKTRDAG	CRPYMAPERI	DPSASRQGYD	VRSDVWSLGI	TLYELATGRF	PYPKWSVFD					360
361	QLTQVVKGDP	PQLSNSEERE	FSPSFINFVN	LCLTKDESKR	PKYKELLKHP	FILMYEERAV					420
421	EVACYVCKIL	DQMPATPSSP	MYVD								480

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

MKK4 wt¹ Amino Acid Sequence

1	MAAPSPSGGG	GSGGGSGSGT	PGPVGSPAPG	HPAVSSMQGK	RKALKLNAN	PPFKSTARFT	60
61	LNPNPTGVQN	PHIERLRTHS	IESGKLKIS	PEQHWDFTA	DLKDLGEIGR	GAYGSVNKMV	120
121	HKPSGQIMAV	KRIRSTVDEK	EQQLLLMDLD	VMRSSDCPY	IVQFYGALFR	EGDCWICMEL	180
181	MSTSFDFKYK	YVYSVLDDVI	PEEILGITL	ATVKALNHLK	ENLKIHRDI	KPSNILLDRS	240
241	GNIKLCDFGI	SGQLVDSIAK	TRDAGCRPYM	APERIDPSAS	RQGYDVRSDV	WSLGITLYEL	300
301	ATGRFPYPKW	NSVFDQLTQV	VKGDPQLSN	SEEREFSFSF	INFVNLCLTK	DESKRPKYKE	360
361	LLKHPFILMY	EERAVEVACY	VCKILDQMPA	TPSSPMYVD			420

blue: MKK4 sequence expressed in recombinant protein

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