

MAP4K4

mitogen-activated protein kinase kinase kinase 4

Recombinant Human Active Protein Kinase

HGNC Symbol: MAP4K4

Synonyms: HGK, MEKKK4, NIK

Product No.: 1493-0000-1

Lot: 016

Description: Human MAP4K4, amino acids A7-W₁₃₂₀ (as in [NCBI/Protein](#) entry XP_005264112.1), N-terminal GST-HIS₆ fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

Product identity: Kinase Lot 000, was confirmed as Kinase by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 178,606 Da

Expression host: Sf9 insect cells

Purification: GST-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, 15 mM reduced glutathione, 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: 0.135 µg/µl

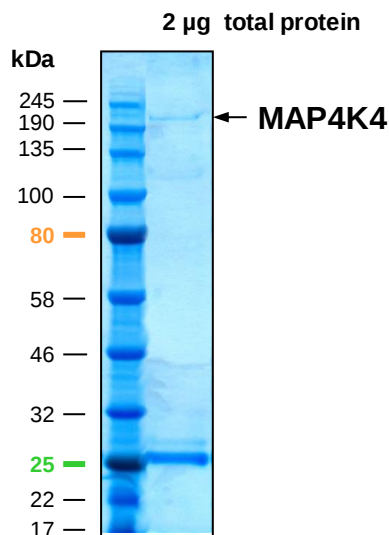
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

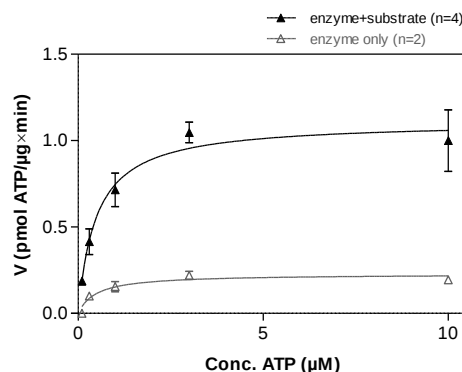
Specific kinase activity (P_i transfer): 1.1 pmol/µg × min

ATP-K_M: 0.49 µM

MAP4K4 Lot 016:
Coomassie stain



MAP4K4 Lot 016:
Determination of V_{max} and K_M value for ATP



- 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}
ATP (variable)
Substrate: RBER-GSK3 40 µg/ml
Kinase: 3 µg/ml
- Filter binding assay
MSFC membrane (Millipore)

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GST-MAP4K4 Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFNLPYYID	60
61	GDVKLTQSM	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RDSLEVLFGC	240
241	MAKSLVDID	LSSLRDPAGI	FELVEVVGNG	TYGQVYKGRH	VKTGQLAAIK	VMDVTEDEEE	300
301	EIKLEINMLK	KYSHRNIAI	YYGAFIKKSP	PGHDDQLWL	MEFCGAGSIT	DLVKNTKGNT	360
361	LKEDWIAYIS	REILRGLAHL	HIHHVIHRDI	KGQNVLLTEN	AEVKLVDFGV	SAQLDRTVGR	420
421	RNTFIGTPYW	MAPEVIACDE	NPDATYDYS	DLWSCGITAI	EMAEGAPPLC	DMHPMRALFL	480
481	IPRNPPLRK	SKKWSKKFFS	FIEGCLVKNY	MQRPSTEQLL	KHPFIRDQPN	ERQVRIQLKD	540
541	HIDRTRKKRG	EKDETEYEYS	GSEEEEEVEP	EQEGEPSSIV	NVPGESTLRR	DFLRLQQENK	600
601	ERSEALRRQQ	LLQEQQQLREQ	EYKRLQLAE	RQKRIEQQKE	QRRRLEEQQR	REREARRQQE	660
661	ERQRREQEE	KRRLEELERR	RKEEEERRRA	EEEKRRVERE	QEYIRRLQEE	EQRHLEVLQQ	720
721	QLLQEQAMLL	ECRWREMEEH	RQAERLQRQL	QQEQAYLLSL	QHDHRRPHQ	HSQPPPPQQ	780
781	ERSKPSFHAP	EPKAHYEPAD	RAREVEDRFR	KTNHSSPEAQ	SKQTGRVLEP	PVPSRSESFS	840
841	NGNSESVHPA	LQRPAPQVQ	WSHLASLKN	VSPVSRSHSF	SDPSPKFAHH	HLRSQDPCPP	900
901	SRSEVLSQSS	DSKSEAPDPT	QKAWSRSDSD	EVPPRPVVRT	TSRSPVLSRR	DSPLQSGSQ	960
961	NSQAGQRNST	SSIEPRLLWE	RVEKLVPRPG	SGSSSGSSNS	GSQPGSHPGS	QSGSGERFRV	1020
1021	RSSSKSESGP	SQRLNAVKK	PEDKKEVFRP	LKPAGEVDLT	ALAKELRAVE	DVRPPHKVTD	1080
1081	YSSSEESGT	TDEEDDDVEQ	EGADESTSGP	EDTRAASSLN	LSNGETESVK	TMIVHDDVES	1140
1141	EPAMTPSKEG	TLIVRQTQSA	SSTLQKHKSS	SSFTPFIDPR	LLQISPSSGT	TVTSVGVFSC	1200
1201	DGMRPEAIRQ	DPTRKGSVVN	VNPTNTRPQS	DTPEIRKYKK	RFNSEILCAA	LWGVNLLVGT	1260
1261	ESGLMLLDRS	GQGVYPLIN	RRRFQQMDVL	EGLNVLVITIS	GKKDKLRVY	LSWLRNKLH	1320
1321	NDPEVEKKQG	WTTVGDLEGC	VHYKVVKYER	IKFLVIALKS	SVEVYAWAPK	PYHKFMAFKS	1380
1381	FGELVHKPLL	VDLTVEEGQR	LKVIYGSCAG	FHAVDVDSGS	VYDIYLPTHI	QCSIKPHAI	1440
1441	ILPNTDGMEL	LVCYEDEGVY	VNTYGRITKD	VVLQWGEMPT	SVAYIRSNQT	MGWGEKAI	1500
1501	RSVETGHLDG	LFVFMHQRRL	KFLCERNDKV	FFASVRSQGS	SQVYFMTLGR	TSLLSW	1560

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: MAP4K4

MAP4K4 wt¹ Amino Acid Sequence

1	MANDSPAKSL	VDIDLSSLRD	PAGIFELVEV	VGNQTYGQVY	KGRHVKTGQL	AAIKVMDVTE	60
61	DEEEEIKLEI	NMLKKYSHHR	NIATYYGAFI	KKSPPGHDDQ	LWLVMEFCGA	GSITDLVKNT	120
121	KGNTLKEDWI	AYISREILRG	LAHLHIHVI	HRDIKGQNVL	LTENAIEVKLV	DFGVSAQLDR	180
181	TVGRRNTFIG	TPYWMAPEVI	ACDENPDATY	DYRSDLWSCG	ITAIEMAEGA	PPLCDMHFMR	240
241	ALFLIPRNPP	PRLKSKKWSK	KFFSFIEGCL	VKNYMQRPS	EQLLKHPFIR	DQPNRQVRI	300
301	QLKDHDITR	KKRGEKDETE	YEYSGSEEEE	EEVPEQEGEP	SSIVNVPGES	TLRRDFLRQL	360
361	QENKERSEAL	RRQQLLQEQ	LREQEYKQ	LLAERQKRIE	QQKEQRRRLE	EQQRREREAR	420
421	RQQEREQRRR	EQEEKRRLEE	LERRRKEEEE	RRRAEEKRR	VEREQEYIRR	QLEEEQRHLE	480
481	VLOQQLLQEQ	AMLEECRWRE	MEHRQAERL	QRQLQEQQAY	LLSLQHDHRR	PHQHSQPP	540
541	PPQERSKPS	FHAPEPKAHY	EPADRAREVE	DRFRKTNHSS	PEAQSLQTHR	VLEPPVPSRS	600
601	ESFSNGNSES	VHPALQRP	PQVQWSHLAS	LKNNVSPVSR	SHSFSDPSPK	FAHHHLRSQD	660
661	PCPPSRSEVL	SQSSDSKSEA	PDPTQKAWSR	SDSDEVPPRV	PVRTTSRSPV	LSRRDSPLOQ	720
721	SGQONSQAGQ	RNSTSSIEPR	LLWERVEKLV	PRPGSGSSSG	SSNSGSQPGS	HPGSQSGSGE	780
781	RFRVRSSSKS	EGSPSQRLN	AVKKPEDKKE	VFRPLKPAGE	VDLTALAKEL	RAVEDVRPPH	840
841	KVTDESSSSSE	ESGTDEEDD	DVEQEGADES	TSGPEDTRAA	SSLNLSNGET	ESVKTMIVHD	900
901	DVESEPMPT	SKETGLIVRQ	TQSASSTLQK	HKSSSFPTPF	IDPRLQLISP	SSGTTVTSVV	960
961	GFSCDGMRE	AIRQDPTRKG	SVNVNPTNT	RPQSDTPEIR	KYKKRFNSEI	LCAALQSVNL	1020
1021	LVGTESGLML	LDRSGQGVY	PLINRRRFQ	MDVLEGLNVL	VTISGKKDKL	RVYYLSWLRN	1080
1081	KILHNDPEVE	KKQGWTTVG	LEGCVHYKV	KYERIKFLVI	ALKSSVEVYA	WAPKPYHKFM	1140
1141	AFKSFGEVLH	KPLLVDLTVE	EGQRLKVIYG	SCAGFHAVDV	DSGSVYDIYL	PTHIQCSIKP	1200
1201	HAIILPNTD	GMELLVCYED	EGVYVNTYGR	ITKDVVLQWG	EMPTSVAYIR	SNQTMGWGEK	1260
1261	AIEIRSVETG	HLDGVMHHR	AQRLKFLCER	NDKVFFASVR	SGSSQVYFM	TLGRTSLLSW	1320

blue: MAP4K4 sequence expressed in recombinant protein

¹NCBI/Protein accession number XP_005264112.1

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