

MEK1 F53L

Mitogen-activated protein kinase kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: MAP2K1

Synonyms: MAP2K1; MAPKK1, MAPKK 1, MKK1, PRKMK1

Product No.: 1538-0000-1

Lot: 001

Description: Human MEK1, full length, amino acids M₁-V₃₉₃ (as in NCBI/Protein entry NP_002746.1) with a F53L mutation, activated, untagged, expressed in Sf9 insect cells

Product identity: MEK1 F53L Lot 001, was confirmed as MEK1 F53L by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 43,537 Da

Expression: Baculovirus infected Sf9 cells

Purification: Immobilized Metal Affinity Chromatography, followed by cleavage of His₆-tag

Activation: With B-RAF wt (ProQinase Product# 0403-0000-1)

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

Storage temperature: -80°C

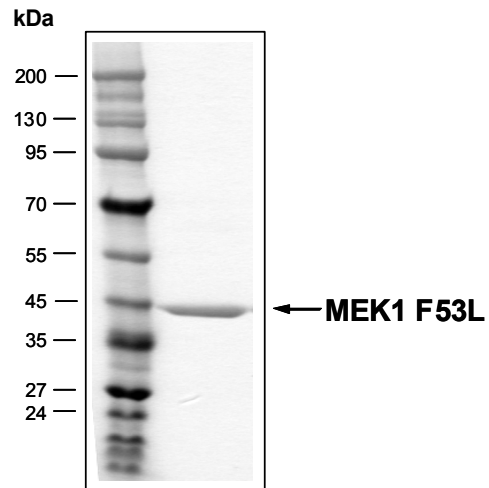
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.296 µg/µl (Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

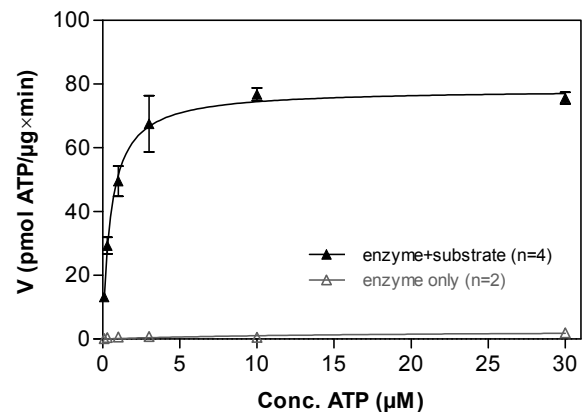
Specific MEK1 F53L activity (P_i transfer): 78 pmol/µg×min
ATP-K_M: 0.53 µM

**MEK1 F53L Lot 001:
Coomassie stain**



2.0 µg MEK1 F53L

**MEK1 F53L Lot 001:
Determination of V_{max} and K_M value for ATP**



Determination of K_M value & Specific 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}
 - ATP (variable)
 - Substrate: ERK2 K54R (ProQinase product# 0416-0000-5, 100 µg / ml)
 - MEK1 F53L: 1.0 µg / ml
- Filter binding assay
 - MSFC membrane (Millipore)

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MEK1 F53L

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MEK1 F53L Recombinant Protein Amino Acid Sequence									
1	GAM	TKKKKPTP	IQLNPAPDGS	AVNGTSSAET	NLEALQKKLE	ELELDEQQRK	RLEAL	ILTQKQ	60
61	KVGELKDDDF	EKISELGAGN	GGVVKVSHK	PSGLVMARKL	IHLEIKPAIR	NQIIRELQVL			120
121	HECNSPYIVG	FYGAFYS DGE	ISICMEHMDG	GSLDQVLKKA	GRIPEQILGK	VSIIVIKGLT			180
181	YLREKHKIMH	RDVKPSNILV	NSRGEIKLCD	FGVSGQLIDS	MANSFVGTRS	YMSPERLQGT			240
241	HYSVQSDIWS	MGLSLVEMAV	GRYPPIPPDA	KELELMFGCQ	VEGDAAETPP	RPRTPGRPLS			300
301	SYGMDSRPPM	AIFELLDYIV	NEPPPKLPSG	VFSLEFQDFV	NKCLIKNP AE	RADLKQLMVH			360
361	AFIKRSDAEE	VDFAGWLCST	IGLNQ PSTPT	HAAGV					420

blue:MEK1 boxed:variation from RefSeq

MEK1 F53L wt ¹ Amino Acid Sequence									
1	MP	KKKPTPIQ	LNPAPDGS AV	NGTSSAETNL	EALQKKLEEL	ELDEQQRKRL	EAF	LTQKQKV	60
61	GELKDDDFEK	I SELGAGNGG	VVFKVSHKPS	GLVMARKLIH	LEIKPAIRNQ	IIRELQVLHE			120
121	CNSPYIVGFY	GAFYSDGEIS	ICMEHMDGGS	LDQVLKKAGR	IPEQILGKVS	IIVIKGLTYL			180
181	REKHKIMHRD	VKPSNILVNS	RGEIKLCDFG	VSGQLIDSMA	NSFVGTRSYM	SPERLQGTHY			240
241	SVQSDIWSMG	L SLVEMAVGR	YPIPPDAKE	LELMFGCQVE	GDAETPPRP	RTPGRPLSSY			300
301	GMDSRPPMAI	FELLDYIVNE	PPPKLPSGVF	SLEFQDFVNK	CLIKNPAERA	DLKQLMVHAF			360
361	IKRSDAEEVD	FAGWLCSTIG	LNQPSTPTHA	AGV					420

blue: MEK1 sequence expressed in fusionprotein Red: variant in fusionprotein

¹NCBI/Protein accession number NP_002746.1

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