

MEK1 S218E/S222E

MAPK / ERK activating kinase

Recombinant Human Active Protein Kinase

HGNC Symbol: MAP2K1

Synonyms: MAP2K1, MKK1

Product No.: 0385-0000-1

Lot: 001

Description: Human MEK1, full length, amino acids M₁-V₃₉₃ (as in [NCBI/Protein](#) entry NP_002746.1), with constitutive activating mutations S218E and S222E, N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: MEK1 S218E/S222E, Lot 001, was confirmed as MEK1 by MEK1 specific Western blot

Theoretical MW_{Fusion Protein}: 72,918 Da

Expression host: Sf9 insect cells/E.coli

Purification: GST-Affinity Chromatography

Activation: constitutively active due to S218E/S222E point mutations, no further procedures were applied to activate this kinase

Storage buffer: 50 mM TRIS-HCl pH 8.0, 100 mM NaCl, 5 mM DTT, 4 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: 0.379 µg/µl

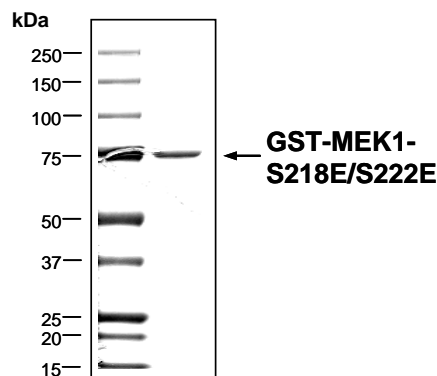
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

Specific kinase activity (P_i transfer): 37 pmol/µg × min

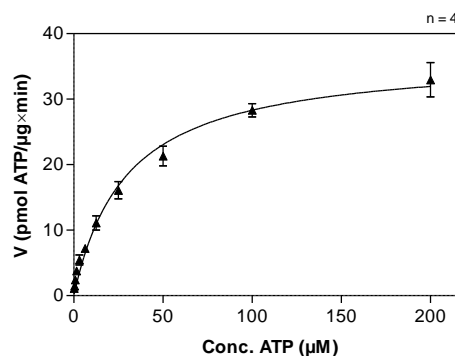
ATP-K_M: 30 µM

MEK1 S218E/S222E Lot 001: Coomassie stain



2.0 µg GST-MEK1 S218E/S222E

MEK1 S218E/S222E 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 100 µg/ml
 - Kinase: 4 µg/ml
- Filter binding assay
- MSFC membrane (Millipore)

MEK1 S218E/S222E

Product No.: 0385-0000-1

GST-MEK1 S218E/S222E Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDKVLTQSM	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQG WQATF	GGGDHPPKSD	PMGHHHHH G	RRRASVAAGI	240
241	LVPRGSPGLD	GICSRMPK K	PTPIQLNPAP	DGSAVNGTSS	AETNLEALQK	KLELELDEQ	300
301	QRKRLEAFLT	QKQKVGELKD	DDFEKISELG	AGNGGVVFKV	SHKPSGLVMA	RKLIHLEIKP	360
361	AIRNQI IREL	QVLHECN SPY	IVGFYGA FYS	DGEISICMEH	MDGGS LDQVL	KKAGRIPEQI	420
421	LGKVSIAVIK	GLTYLREKHK	IMHRDVKPSN	ILVNSRGEIK	LCDFGVSGQL	IDE MAN E FVG	480
481	TRSYMSPERL	QGTHYSVQSD	IWSMGLSLVE	MAVG RYPIPP	PDAKELELMF	GCQVEGDAAE	540
541	TPPRPRT PGR	PLSSYGMSR	PPMAIFELLD	YIVNEPPPKL	PSGVFSLEFQ	DFV NKCLIKN	600
601	PAERADLQQL	MVHAFIKRSD	AEEVDFAGWL	CSTIGLNQPS	TPTHAA G		660

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: MEK1 boxed: variation from RefSeq

MEK1 wt ¹ Amino Acid Sequence							
1	MPKKKPTPIQ	LNPAPDGSAV	NGTSSAETNL	EALQKKLEEL	ELDEQQRKRL	EAFLTQKQKV	60
61	GELKDDDFEK	I SELGAGNGG	VVFKVSHKPS	GLVMARKLIH	LEIKPAIRNQ	IIRELQVLHE	120
121	CNSPYIVGFY	GAFYSDGEIS	ICMEHMDGGS	LDQVLKKAGR	IPEQILKVS	I AVIKGLTYL	180
181	REKHKIMHRD	VKPSNILVNS	RGEIKLCDFG	VSGQLID SMA	NSFVGTRSYM	SPERLQGTHY	240
241	SVQSDIWSMG	LSLVEMAVGR	YPIPPPDAKE	LELMFGCQVE	GDA AETPPRP	RTPGRPLSSY	300
301	GMSRPPMAI	FELLDYIVNE	PPPKLPSGVF	SLEFQDFV NK	CLIKNPAERA	DLKQLMVHAF	360
361	IKRSDAEEVD	FAGWLCSTIG	LNQPSTPTHA	AGV			420

blue: MEK1 sequence expressed in recombinant protein Red: variant in recombinant protein

¹[NCBI/Protein](#) accession number NP_002746.1

This product was manufactured at ProQinase in Freiburg, Germany, and is for in vitro research use only, not for use in humans or animals. ProQinase disclaims any warranty explicitly or implied that the use of the product or parts of the product is free from third party intellectual property claims unless this is explicitly stated.