

p38-alpha

mitogen-activated protein kinase 14

Recombinant Human Active Protein Kinase

HGNC Symbol: MAPK14

Synonyms: CSBP1, SAPK2A, PRKM14

Product No.: 0443-0000-3

Lot: 005

Description: Human p38-alpha, full length, amino acids M₁-S₃₆₀ (as in [NCBI/Protein](#) entry NP_001306.1), activated, untagged, expressed in E.coli

Product identity: p38-alpha, Lot 005, was confirmed as p38-alpha by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 41,622 Da

Expression host: E.coli

Purification: Immobilized Metal Affinity Chromatography

Activation: With MKK6-SDTD

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: 0.311 µg/µl

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

Biochemical Parameters:

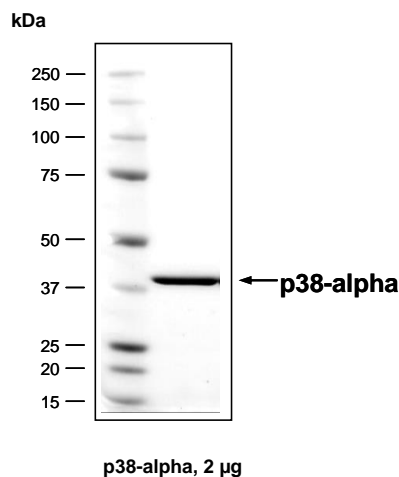
Specific kinase activity (P_i transfer): 893 pmol/µg x min

ATP-K_M: 2.7 µM

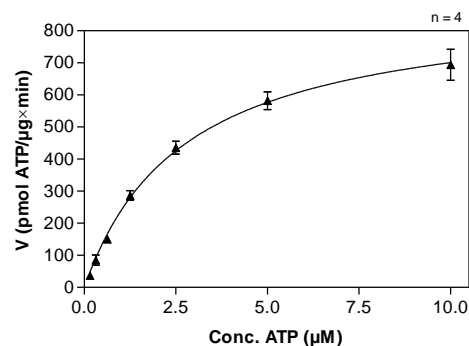
Additional assay technology:

p38-alpha Lot 005 was also successfully tested by ProQinase for the use with the ADP-Glo™ Kinase assay from Promega. ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

p38-alpha Lot 005: Coomassie stain



p38-alpha Lot 005: 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: ATF2 recombinant, 200 µg/ml
 - p38-alpha: 500 ng/ml
- Filter binding assay
- MSFC membrane (Millipore)

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p38-alpha Recombinant Fusion Protein Amino Acid Sequence							
1	GAMSQERPTF	YRQELNKTIW	EVPERYQNL	PVGSAGYSV	CAAFDTKTGL	RVAVKLSRP	60
61	FQSIIHAKRT	YRELRLKHM	KHENVIGLLD	VFTPARSLEE	FNDVYLVTHL	MGADLNNIVK	120
121	CQKLTDDHVQ	FLIYQILRGL	KYIHSADIIH	RDLKPSNLAV	NEDCELKILD	FGLARHTDDE	180
181	MTGYVATRWY	RAPEIMLNWM	HYNQTVDIWS	VGCIMAELLT	GRTLFPGTDH	INLQOQIMRL	240
241	TGTPPAYLIN	RMPSSHEARNY	IQSLTQMPKM	NFANVFIGAN	PLAVDLLEKM	LVLDSDKRIT	300
301	AAQALAHAYF	AQYHDPDDEP	VADPYDQSF	SRDLLIDEWK	SLTYDEVISF	VPPPLDQEEM	360
361	ES						420

blue: p38-alpha

p38-alpha wt ¹ Amino Acid Sequence							
1	MSQERPTFYR	QELNKTIWEV	PERYQNLSPV	GSGAYGSVCA	AFDTKTGLRV	AVKLSRPFQ	60
61	SIIHAKRTYR	ELRLKMKH	ENVIGLLDVF	TPARSLEEFN	DVYLVTHLMG	ADLNNIVKCQ	120
121	KLTDHVQFL	IYQILRGLKY	IHSADIIHRD	LKPSNLAVNE	DCELKILDFG	LARHTDDEMT	180
181	GYVATRWYRA	PEIMLNWMHY	NQTVDIWSVG	CIMAELLTGR	TLFPGTDHIN	QLQOIMRLTG	240
241	TTPPAYLINRM	PSHEARNYIQ	SLTQMPKMF	ANVFIGANPL	AVDLLEKMLV	LDSDKRITAA	300
301	QALAHAYFAQ	YHDPDDEPVA	DPYDQSFESR	DLLEDEWKS	TYDEVISFVP	PPLDQEEMES	360

blue: p38-alpha sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_001306.1

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