

ProQinase™ TAK1-TAB1

mitogen-activated protein kinase kinase kinase 7

Recombinant Human Active Protein Kinase

HGNC Symbol: MAP3K7

Synonyms: MEKK7

Product No.: 1997-0000-1

Lot: 001

Description: Human TAK1, N-terminal fragment, amino acids M₁-Q₃₀₃ (as in [NCBI/Protein](#) entry NP_663304.1) fused via an EFGGGGG linker to a C-terminal fragment of human TAB1 (amino acids Q₄₃₇-P₅₀₄), untagged, expressed in Sf9 insect cells

Product identity: TAK1-TAB1 Lot 001, has been verified by mass spectrometry LC-ESI-MS/MS

Theoretical MW_{TAK1-TAB1}: 41862 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: by fusion to TAB1 fragment as described by Sakurai et al

Storage buffer: 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 15 mM reduced glutathione, 20 % glycerol

Storage temperature: -80°C

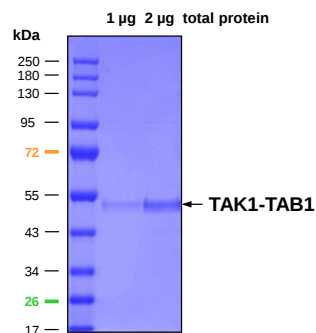
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10 µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.532 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

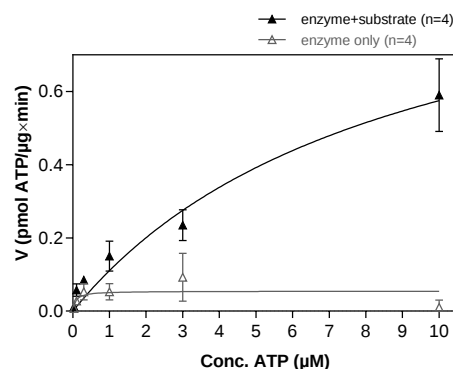
Biochemical Parameters:

Specific kinase activity (P_i transfer): 1.1 pmol/µg*min
ATP-K_M: 8.8 µM

TAK1-TAB1 Lot 001:
Coomassie stain



TAK1-TAB1 Lot 001:
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: bio-R₁₁-S6Ptide 10 µg/ml
Kinase: 2 µg/ml

Assay technology:
Radiometric filter binding assay
MSIP membrane (96 well plate, Millipore)

TAK1-TAB1 fusion protein reference:

Sakurai, H. et al. TAK1-TAB1 fusion protein: a novel constitutively active mitogen-activated protein kinase kinase kinase that stimulates AP-1 and NF-κB signaling pathways. *Biochem. Biophys. Res. Commun.* 297, 1277-1281 (2002).

Sequence information

GST-TAK1-TAB1 Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHHG	RDSLEVLFGG	240
241	PMSTASAASS	SSSSSAGEMI	EAPSQVLNFE	EIDYKEIEVE	EVVGRGAFGV	VCKAKWRAKD	300
301	VAIKQIESES	ERKAFIVELR	QLSRVNHPI	VKLYGACLN	VCLVMEYAE	GSLYNVLHGA	360
361	EPLPYTAAH	AMSWCLQCSQ	GVAYLHSMQP	KALIHRLKPP	PNLLLVAGGT	VLKICDFGTA	420
421	CDIQTHTMNN	KGSAAWMAPE	VFEGSNYSEK	CDVFSWGIL	WEVITRRKPF	DEIGGPAFRI	480
481	MWAVHNGTRP	PLIKNLPKPI	ESLMTRCWSK	DPSQRPSMEE	IVKIMTHLMR	YFPGADEPLQ	540
541	YPCQEFGGGG	GQSPTLTLOS	TNHTQSSSS	SSDGGLFRSR	PAHSLPPGED	GRVEPYVDFA	600
601	EFYRLWSVDH	GEQSVVTAP					660

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: TAK1 fragment boxed: linker orange: TAB1 fragment

TAK1 wt¹ Amino Acid Sequence

1	MSTASAASSS	SSSSSAGEMIE	APSQVLNFEE	IDYKEIEVEE	VVGRGAFGVV	CKAKWRAKDV	60
61	AIKQIESESE	RKAFIVELRQ	LSRVNHPNIV	KLYGACLN	CLVMEYAE	SLYNVLHGAE	120
121	PLPYTTAAHA	MSWCLQCSQG	VAYLHSMQPK	ALIHRLKPP	NLLLVAGGT	LKICDFGTAC	180
181	DIQTHMTNNK	GSAAWMAPEV	FEGSNYSEK	DVFSWGILW	EVITRRKPF	EIGGPAFRIM	240
241	WAVHNGTRPP	LIKNLKPPIE	SLMTRCWSKD	PSQRPSMEEI	VKIMTHLMRY	FPGADEPLQ	300
301	PCQYSDEGQS	NSATSTGSFM	DIASNTSNK	SDTNMEQVPA	TNDTIKRLES	KLLKNQAKQQ	360
361	SESGRLSLGA	SRGSSVESLP	PTSEGKRMSA	DMSEIEARIA	ATTAYSKPKR	GHRKTASFGN	420
421	ILDVPEIVIS	GNGQPRRSI	QDLTVTGTEP	GQVSSRSSSP	SVRMITTS	TSEKPTRSHP	480
481	WTPDDSTDNT	GSDNSIPMAY	LTLDHQLQPL	APCPNSKESM	AVFEQHCKMA	QEYMKVQTEI	540
541	ALLLQRKQEL	VAELDQDEKD	QQNTSRLVQE	HKKLLDENKS	LSTYYQQCKK	QLEVIRSQQQ	600
601	KRQGT						660

blue: TAK1 sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_663304.1TAB1 wt² Amino Acid Sequence

1	MAAQRRSLIQ	SEQQPSWTDD	LPLCHLSGVG	SASNRSYSAD	GKGTESHPPE	DSWLKFRSEN	60
61	NCFLYGVFNG	YDGNRVTNFV	AQRLSAELLL	GQLNAEHAEA	DVRRVLLQAF	DVVERSFLS	120
121	IDDALAEKAS	LQSQLPEGVP	QHQLPPQYQK	ILERLKTLE	EISGGAMAVV	AVLLNNKLYV	180
181	ANVTGNRALL	CKSTVDGLQV	TQLNVDHTE	NEDELFRLSQ	LGLDAGKIKQ	VGIICGQEST	240
241	RRIGDYKVYK	GYTDIDLLSA	AKSKPIIAEP	EIHGAQPLDG	VTGFLVLMSE	GLYKALEAAH	300
301	GPGQANQEIA	AMIDTEFAKQ	TSLDAVAQAV	VDRVKRIHSD	TFASGGERAR	FCPRHEDMTL	360
361	LVRNFGYPLG	EMSQPTPSPA	PAAGGRVYPV	SVPYSSAQST	SKTSVTLSLV	MPSQGQMVNG	420
421	AHSASTLDEA	TPTLTNQSPT	LTLQSTNTH	QSSSSSDGG	LFRSRPAHSL	PPGEDGRVEP	480
481	YVDFAEFYRL	WSVDHGEQSV	VTAP				540

blue: TAB1 sequence expressed in recombinant protein

²[NCBI/Protein](#) accession number NP_006107.1