

PAK1

p21 (RAC1) activated kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: PAK1

Synonyms: PAK-alpha, AlphaPAK

Product No.: 0357-0000-1

Lot: 002

Description: Human PAK1, full length, amino acids M₁-H₅₄₅ (as in [NCBI/Protein](#) entry NP_002567.3), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: PAK1 Lot 002, was confirmed as PAK1 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 90,542 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: This kinase was not activated by special procedures

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: 0.608 µg/µl

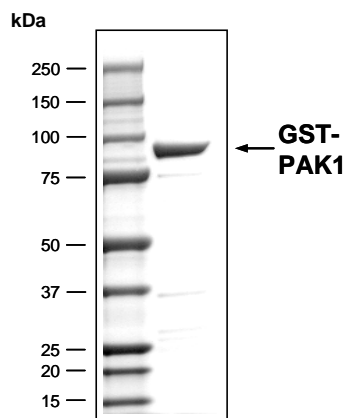
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

Specific kinase activity (P_i transfer): 386 pmol/µg × min

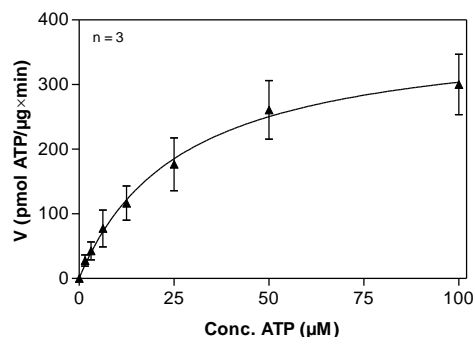
ATP-K_M: 27 µM

PAK1 Lot 002:
Coomassie stain



2.0 µg PAK1

PAK1 Lot 002:
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: tetra(LRRWSLG), 200 µg/ml
 - PAK1: 1 µg/ml
- Filter binding assay
- MSPH membrane (Millipore)

Additional assay technology:

PAK1 Lot 002 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

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GST-PAK1 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMG HHHHHG	RRRASVAAGI	240
241	LVPRGS PGLD	GIYARGIQAS	MSNGLDIQD	KPPAPPMRNT	STMIGAGSKD	AGTLNHGSKP	300
301	LPPNPEEKKK	KDRFYRSILP	GDKTNKKKEK	ERPEISLPSD	FEHTIHVGF	AVTGEFTGMP	360
361	EQWARLLQTS	NITKSEQKKN	PQAVLDVLEF	YNSKKTNSQ	KYMSFTDKSA	EDYNSSNALN	420
421	VKAVSETPAV	PPVSEDEDD	DDDATPPPVI	APRPEHTKSV	YTRSVIEPLP	VTPTRDVATS	480
481	PISPTENNTT	PPDALTRNTE	KQKKKPKMSD	EEILEKLSI	VSVGDPKKKY	TRFEKIGQGA	540
541	SGTVYTAMDV	ATQGEVAIKQ	MNLQQQPKKE	LIINEILVMR	ENKNPNIVNY	LDSYLVGDEL	600
601	WVMEYLAGG	SLTDVVTETC	MDEGQIAAVC	RECLQALEFL	HSNQVIHRDI	KSDNILLGMD	660
661	GSVKLTDFGF	CAQITPEQSK	RSTMVGTYPW	MAPEVTRKA	YGPVKDIWSL	GIMAIEMIEG	720
721	EPPYLNENPL	RALYLIATNG	TPELQNPEKL	SAIFRDFLNR	CLEMDVEKRG	SAKELLQHQF	780
781	LKIAKPLSSL	TPLIAAAKEA	TKNNH				840

1-218: GST **Red**: HIS6-tag **Pink**: Thrombin cleavage site **blue**: PAK1

PAK1 wt ¹ Amino Acid Sequence							
1	MSNGLDIQD	KPPAPPMRNT	STMIGAGSKD	AGTLNHGSKP	LPPNPEEKKK	KDRFYRSILP	60
61	GDKTNKKKEK	ERPEISLPSD	FEHTIHVGF	AVTGEFTGMP	EQWARLLQTS	NITKSEQKKN	120
121	PQAVLDVLEF	YNSKKTNSQ	KYMSFTDKSA	EDYNSSNALN	VKAVSETPAV	PPVSEDEDD	180
181	DDDATPPPVI	APRPEHTKSV	YTRSVIEPLP	VTPTRDVATS	PISPTENNTT	PPDALTRNTE	240
241	KQKKKPKMSD	EEILEKLSI	VSVGDPKKKY	TRFEKIGQGA	SGTVYTAMDV	ATQGEVAIKQ	300
301	MNLQQQPKKE	LIINEILVMR	ENKNPNIVNY	LDSYLVGDEL	WVMEYLAGG	SLTDVVTETC	360
361	MDEGQIAAVC	RECLQALEFL	HSNQVIHRDI	KSDNILLGMD	GSVKLTDFGF	CAQITPEQSK	420
421	RSTMVGTYPW	MAPEVTRKA	YGPVKDIWSL	GIMAIEMIEG	EPPYLNENPL	RALYLIATNG	480
481	TPELQNPEKL	SAIFRDFLNR	CLEMDVEKRG	SAKELLQHQF	LKIAKPLSSL	TPLIAAAKEA	540
541	TKNNH						600

blue: PAK1 sequence expressed in recombinant protein

¹[NCBI/Protein](https://www.ncbi.nlm.nih.gov/protein/NP_002567.3) accession number NP_002567.3

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