

ProQinase™ JAK1

Janus kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: JAK1

Synonyms: JAK1A, JAK1B, JTK3

Product No.: 1480-0000-1

Lot: 003

Description: Human JAK1, C-terminal fragment, amino acids L₅₈₃-K₁₁₅₄ (as in [NCBI/Protein](#) entry NP_002218.2), N-terminal GST-HIS₆ fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

Product identity: JAK1 Lot 003, has been verified by mass spectrometry LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 93627 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: This kinase was not activated by special procedures

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

Storage temperature: -80°C

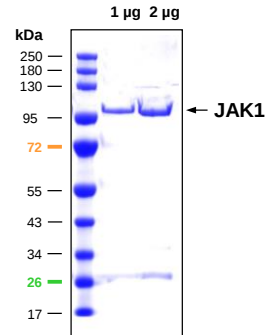
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10 µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.119 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

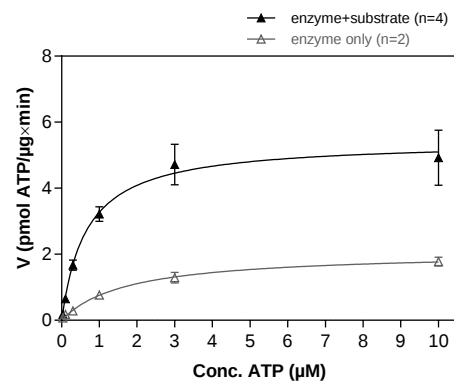
Biochemical Parameters:

Specific kinase activity (P_i transfer): 5.4 pmol/µg*min
ATP-K_M: 0.7 µM

JAK1 Lot 003:
Coomassie stain



JAK1 Lot 003:
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: RBER-IRStide 40 µg/ml
 - Kinase: 5 µg/ml

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

Sequence information

GST-JAK1 aa583-1154 wt 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	KRIEAIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHHG	RDSLEVLFGG	240
241	PLVQGEHLGR	GTRTHIYSGT	LMDYKDDEGT	SEEKKIKVIL	KVLDPSHRDI	SLAFFEAAASM	300
301	MRQVSHKHIV	YLYGVCVRDV	ENIMVEEFVE	GGPLDLFMHR	KSDVLTTPWK	FKVAKQLASA	360
361	LSYLEDKDLV	HGNVCTKNLL	LAREGIDSEC	GPFIKLSDPG	IPITVLSRQE	CIERIPWIA	420
421	ECVEDSKNLS	VAADKWSFGT	TLWEICYNGE	IPLKDKTLIE	KERFYESRCR	PVTPSCKELA	480
481	DLMTRCMNYD	PNQRPFFRAI	MRDINKLEEQ	NPDIVSEKKP	ATEVDPTHFE	KRFLKRIRDL	540
541	GEGHFGKVEL	CRYDPEGDNT	GEQVAVKSLK	PESGGNHIA	LKKEIEILRN	LYHENIVKYK	600
601	GICTEDGGNG	IKLIMEFLPS	GSLKEYLPKN	KNKINLKQQL	KYAVQICKGM	DYLGSRQYVH	660
661	RDLAARNVLV	ESEHQVKIGD	FGLTKAIEDT	KEYYTVKDDR	DSPVFWYAPE	CLMQSKFYIA	720
721	SDVWSFGVT	HELLTYCDS	SSPMALFLKM	IGPTHGQMTV	TRLVNTLKEG	KRLPCPPNCP	780
781	DEVYQLMRKC	WEFQPSNRTS	FQNLIIEGFE	LLK			840

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: JAK1 fragment

JAK1 wt ¹ Amino Acid Sequence							
1	MQYLNKEDC	NAMAFCAKMR	SSKKTEVNLE	APEPGVEVIF	YLSREPLRL	GSGEYTAEEL	60
61	CIRAAQACRI	SPLCHNLFAL	YDENTKLWYA	PNRTITVDDK	MSLRLHYRMR	FYFTNWHGTN	120
121	DNEQSVWRHS	PKKQKNGYEK	KKIPDATPLL	DASSLEYLFA	QGQYDLVKCL	APIRDPKTEQ	180
181	DGHDIENECL	GMAVLAISHY	AMMKMKQLPE	LPKDISYKRY	IPETLNKSIR	QRNLLTRMRI	240
241	NNVFKDFLKE	FNNKTICDSS	VSTHDLKVYK	LATLETTLKH	YGAEIFETSM	LLISSENMEN	300
301	WFHSNDGGNV	LYYEVMTGN	LGIQWRHKPN	VVSVEKEKNK	LKRKKLENKH	KKDEEKNKIR	360
361	EEWNNSFYFP	EITHIVIKES	VVSINKQDNK	KMELKLSSHE	EALSFVSLVD	GYFRLTADAH	420
421	HYLCTDVAPP	LIVHNIQNGC	HGPICTEYAI	NKLRQEGSEE	GMVVLWRSCT	DFDNILMTVT	480
481	CFEKSEQVQG	AQKQFKNFQI	EVQKGKRYSLH	GSDRSFPSLG	DLSHLKKQI	LRTDNISFML	540
541	KRCCQPKPRE	ISNLLVATKK	AQEWQPVYPM	SQLSFDRIK	KDLVQGEHLG	RGTRTHIYSG	600
600	TLMDYKDDEG	TSEEKKIKVI	LKVLDPSHRD	ISLAFFEAAS	MMRQVSHKHI	VYLYGVCVRD	660
661	VENIMVEEFV	EGGPLDLFMH	RKSDVLTTPW	KFKVAKQLAS	ALSYLEDKDL	VHGNVCTKNL	720
721	LLAREGIDSE	CGPFIKLSDP	GIPITVLSRQ	ECIERIPWIA	PECVEDSKNL	SVAADKWSFG	780
781	TTLWEICYNG	EIPLKDKTLI	EKERFYESRC	RPVTPSCKEL	ADLMTRCMNY	DPNQRPFRA	840
841	IMRDINKLEE	QNPDIIVSEK	PATEVDPTHF	EKRFLKRIRD	LGEGHFGKVE	LCRYDPEGDN	900
901	TGEQVAVKSL	KPESGGNHIA	DLKKEIEILR	NLYHENIVKY	KGICTEDGGN	GIKLIMEFLP	960
961	SGSLKEYLPK	NKNKINLKQQ	LKYAVQICKG	MDYLGSRQYV	HRDLAARNVL	VESEHQVKIG	1020
1021	DFGLTKAIED	DKEYYTVKDD	RDSPVFWYAP	ECLMQSKFYI	ASDVWSFGVT	LHELLTYCDS	1080
1081	DSSPMALFLK	MIGPTHGQMT	VTRLVNTLKE	GKRLPCPPNC	PDEVYQLMRK	CWEFQPSNRT	1140
1141	SFQNLIEGFE	ALLK					1200

blue: JAK1 sequence expressed in recombinant protein

¹NCBI/Protein accession number NP_002218.2

Recombinant Proteins