

ProQinase™ JAK1 aa583-1154 wt

Janus kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: JAK1

Synonyms: JAK1A, JAK1B, JTK3

Product No.: 1480-0000-1

Lot: 002

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 aa583-1154 wt Lot 002, was confirmed as JAK1 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 93,627 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: 0.400 µg/µl

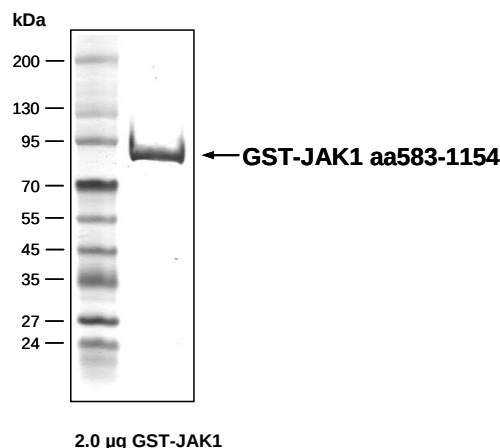
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

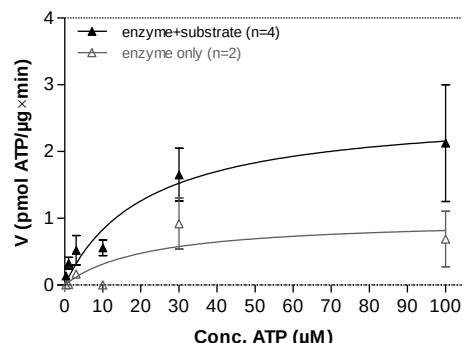
Specific kinase activity (P_i transfer): 2.6 pmol/µg × min

ATP-K_M: 22 µM

JAK1 aa583-1154 wt Lot 002: Coomassie stain



JAK1 aa583-1154 wt 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: RBER-IRStide, 80 µg/ml
 - Kinase: 1 µg/ml
- Filter binding assay
- MSFC membrane (Millipore)

Additional assay technology:

JAK1 aa583-1154 wt Lot 002 was also successfully tested by Reaction Biology 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-JAK1 aa583-1154 wt Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHGG	RDSLEVLFGG	240
241	PLVQGEHLGR	GTRTHIYSGT	LMDYKDDEGT	SEEKKIKVIL	KVLDP SHRDI	SLAFFEAAAS	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	KNKINLKQQ	KYAVQICKGM	DYLGSRQYVH	660
661	DLAARNVLV	ESEHQVKIGD	FGLTKAIETD	KEYYTVKDDR	DSPVFWYAPE	CLMQSKFYIA	720
721	SDVWSFGVTL	HELLTYCDS	SSPMALFLKM	IGPTHGQMTV	TRLVNTLKEG	KRLPCPPNCP	780
781	DEVYQLMRKC	WEFQPSNRTS	FQNLIEGFEA	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	YLS DrePLRL	GSGEYTAEEL	60
61	CIRAAQACRI	SPLCHNLFAL	YDENTKLWYA	PNRTITVDDK	MSLR LH YMR	FYFTNWHGTN	120
121	DNEQSVWRHS	PKKQKNGYEK	KKIPDATPLL	DASSLEYLFA	QQQYDLVKCL	APIRDPKTEQ	180
181	DGHDIENECL	GMAVLAISHY	AMMKMQLPE	LPKDISYKRY	IPETLNKSIR	QRNLLTRMRI	240
241	NNVFKDFLKE	FNNKTICDSS	VSTHDLKVYK	LATLET LTKH	YGAEIFETSM	LLISSENEMN	300
301	WFHSNDGGNV	LYYEVMTGN	LGIQWRHKPN	VVSVEKEKNK	LKRKKLENKH	KKDEEKNKIR	360
361	EEWNNFSYFP	EITHIVIKES	VVSINKQDNK	KMELKLSSHE	EALS FVSLVD	GYFRLTADAH	420
421	HYLCTDVAPP	LIVHNIQNGC	HGPICTEYAI	NKLRQEGSEE	GMVLRWSC T	DFDNILMTVT	480
481	CFEKSEQVQG	AQKQFKNFQI	EVQKGRYSLH	GSDRSFPSLG	DLMSHLKKQI	LRTDNISFML	540
541	KRCCQPKPRE	ISNLLVATKK	AQEWQPVYPM	SQLSFDRILK	KDLVQGEHLG	RGTRTHIYSG	600
600	TLMDYKDDEG	TSEEKKIKVI	LKVLDP SHRD	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	DPNQRPF FRA	840
841	IMRDINKLEE	QNPDI VSEKK	PATEVDPTHF	EKRFLKRIRD	LGEHFGKVE	LCRYDPEGDN	900
901	TGEQVAVKSL	KPESGGNHIA	DLKKEIEILR	NLYHENIVKY	KGICTEDGGN	GIKLIMEFLP	960
961	SGSLKEYLPK	NKNKINLKQQ	LKYAVQICKG	MDYLGSRQYV	HRDLAARNVL	VESEHQVKIG	1020
1021	DFGLTKAIET	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

¹[NCBI/Protein](#) accession number NP_002218.2