

## ProQinase™ Jak1 aa583-1154 S729C

Janus kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: JAK1

Synonyms: JAK1A, JAK1B, JTK3

Product No.: 1481-0000-1

Lot: 002

**Description:** Human JAK1, C-terminal fragment, amino acids L<sub>583</sub>-K<sub>1154</sub> (as in NCBI/Protein entry NP\_002218.2) with a S729C mutation, N-terminal GST-HIS<sub>6</sub> fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

**Product identity:** JAK1 aa583-1154 S729C Lot 002, was confirmed as JAK1 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW<sub>Fusion Protein</sub>:** 93,643 Da

**Expression:** Baculovirus infected Sf9 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

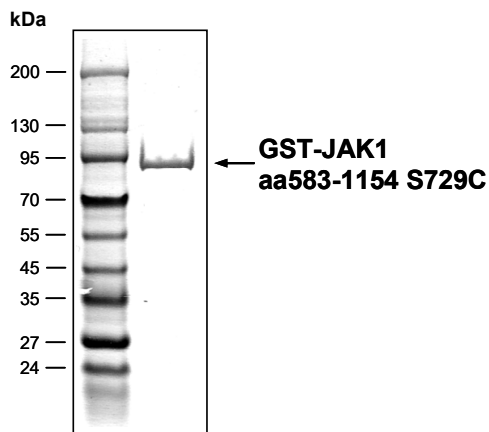
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

**Protein concentration:** 0.285 µg/µl (Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

**Biochemical Parameters:**

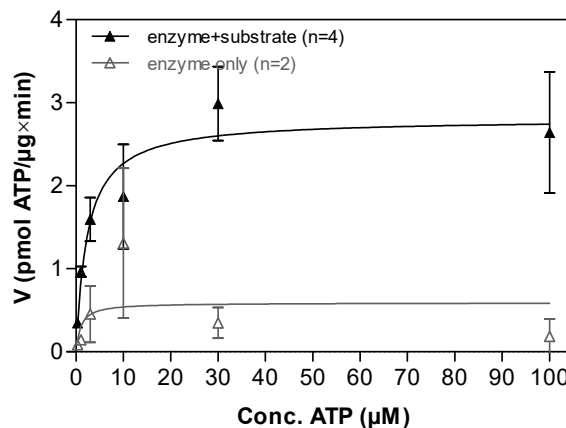
Specific kinase activity (P<sub>i</sub> transfer): 2.8 pmol/µg×min  
ATP-K<sub>M</sub>: 2.4 µM

**JAK1 aa583-1154 S729C Lot 002:  
Coomassie stain**



2.0 µg GST-JAK1

**JAK1 wt aa583-1154 S729C Lot 002:  
Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP**



**Determination of K<sub>M</sub> value & Specific activity:**

- Assay conditions:  
60 mM HEPES-NaOH, pH 7.5  
3 mM MgCl<sub>2</sub>  
3 mM MnCl<sub>2</sub>  
3 µM Na-orthovanadate  
1.2 mM DTT  
50 µg / ml PEG<sub>20,000</sub>  
ATP (variable)  
Substrate: Substrate: RBER-IRStide, 80 µg / ml  
JAK1 S729C aa583-1154 Lot 002: 1.0 µg / ml
- Filter binding assay  
MSFC membrane (Millipore)

**Additional assay technology:** JAK1 aa583-1154 S729C Lot 002

was also successfully tested by Reaction Biology for the use with the ADP-Glo™ Kinase assay from ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details



Recombinant Proteins

## ProQinase™ JAK1 aa583-1154 S729C

Product No.: 1481-0000-0

JAK1 aa583-1154 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQ SMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI P QID	KYLKSSKYIA	WPLQG WQATF	GGGDHPPKSD	PMGHHHHHG	RDSLEVL FQG	240
241	PLVQGEHLGR	GTRTHIYSGT	LM DYK DDEGT	SEEK KIKVIL	KVLDPSHRDI	SLAFFEAASM	300
301	MRQVSHKHIV	YLYGVCVRDV	ENIMVEEFVE	GGPLDLFMHR	KSDVLTTPWK	FKVAKQLASA	360
361	LSYLEDKDLV	HGNVCTKNLL	LAREGID <sup>CEC</sup>	GPFIKLSDPG	IPITVLSRQE	CIERIPWIA P	420
421	ECVEDSKNLS	VAADKWSFGT	TLWEICYNGE	IPLKDKTLIE	KERFYESRCR	PVTPSCKELA	480
481	DLMTRCMNYD	PNQRPFFRAI	MRDINKLEE Q	NPDIVSEKKP	ATEVDPTHFE	KRFLKRIRDL	540
541	GEGHFGKVEL	CRYDPEGDNT	GEQVAVKSLK	PESGGNHIA D	LKKEIEILRN	LYHENIVKYK	600
601	GICTEDGGNG	IKLIMEFLPS	GSLKEYLPKN	KNKINLKQQL	KYAVQICKGM	DYLGSRQYVH	660
661	RDLAARNVLV	ESEHQVKIGD	FGLTKAIETD	KEYYTVKDDR	DSPVFWYAPE	CLMQSKFYIA	720
721	SDVWSFGVTL	HELLTYCDS D	SSPMALFLKM	IGPTHGQMTV	TRLVNTLKEG	KRLPCPPNCP	780
781	DEVYQLMRKC	WEFQPSNRTS	FQNLIEGFEA	LLK			840

1-218: GST    Red: HIS6-tag    Green: 3C cleavage site    blue: JAK1 fragment    boxed: S729C

JAK1 wt <sup>1</sup> Amino Acid Sequence							
1	MQYLN I KEDC	NAMAFCAKMR	SSKKTEVNLE	APEPGVEVIF	YLS DREPLRL	GSGEYTA EEL	60
61	CIRAAQACRI	SPLCHNLFAL	YDENTKLWYA	PNRTITVDDK	MSLRLHYMR	FYFTNWHGTN	120
121	DNEQSVWRHS	PKKQKNGYEK	KKIPDATPLL	DASSLEYLFA	QGQYDLVKCL	APIRDPKTEQ	180
181	DGHDIE NECL	GMAVLAISHY	AMMKMQLPE	LPKDISYKRY	IPETLNKSIR	QRNLLTRMRI	240
241	NNVFKDFLKE	FNNKTICDSS	VSTHDLKVKY	LATLET LTKH	YGAEIFETSM	LLISSE NEMN	300
301	WFHSDGGNV	LYYEVMTGN	LGIQWRHKPN	VVSVEKEKNK	LKRKKLENKH	KKDEEKNKIR	360
361	EEWNNFSYFP	EITHIVIKES	VVSINKQDNK	KMELKLSSHE	EALSFVSLVD	GYFRLTADAH	420
421	HYLCTDVAPP	LIVHNIQNGC	HGPICTEYAI	NKLRQEGSEE	GMVLRWSCT	DFDNILMTVT	480
481	CFEKSEQVQG	AQKQFKNFQI	EVQKGRYSLH	GSDRSFPSLG	DLMSHLKKQI	LRTDNISFML	540
541	KRCCQPKPRE	ISNLLVATKK	AQEWQPVYPM	SQLSFDRI LK	KDLVQGEHLG	RGTRTHIYSG	600
600	TLMDYK DDEG	TSEEK KIKVI	LKVLDP SHRD	ISLAF FEAAS	MMRQVSHKHI	VYLYGVCVRD	660
661	VENIMVEEFV	EGGPLDLFMH	RKSDVLTTPW	KFKVAKQLAS	ALSYLEDKDL	VHGNVCTKNL	720
721	LLAREGID <sup>SE</sup>	CGPFIKLSDP	GIPITVLSRQ	ECIERIPWIA	PECVEDSKNL	SVAADKWSFG	780
781	TTLWEICYN G	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	NKNKINLKQ Q	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 fusionprotein    RED: variant in fusion protein

<sup>1</sup>NCBI/Protein accession number NP\_002218.2