

## ProQinase™ JAK3

Janus kinase 3

Recombinant Human Active Protein Kinase

HGNC Symbol: JAK3

Synonyms: JAKL; L-JAK; LJAK

Product No.: 0354-0000-1

Lot: 005

**Description:** Human JAK3, C-terminal fragment, amino acids I<sub>781</sub>-S<sub>1124</sub> (as in [NCBI/Protein](#) entry NP\_000206.1), N-terminal GST-HIS<sub>6</sub> fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

**Product identity:** JAK3 Lot 005, was confirmed as JAK3 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW**<sub>Fusion Protein</sub>: 68,379 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 10µl are not advisable. Avoid repeated freeze-thaw cycles!

**Protein concentration:** 0.149 µg/µl

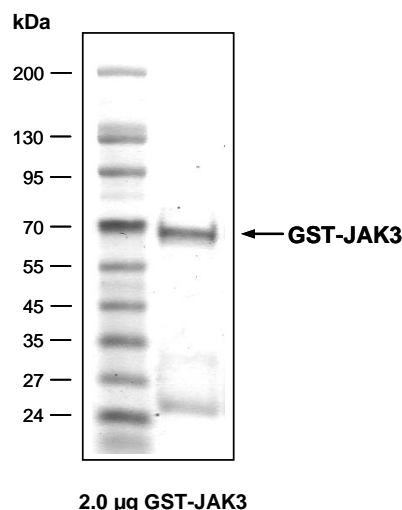
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

**Biochemical Parameters:**

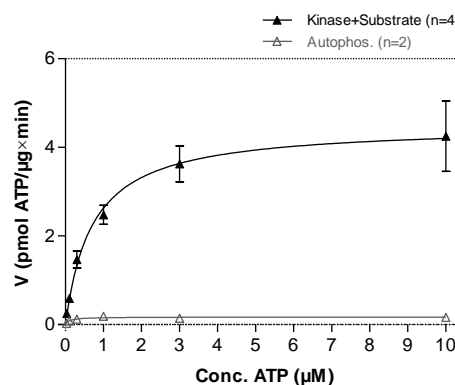
Specific kinase activity (P<sub>i</sub> transfer): 5 pmol/µg × min

ATP-K<sub>M</sub>: 0.7 µM

JAK3 Lot 005:  
Coomassie stain



JAK3 Lot 005:  
Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP



- 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: TRK-C derived peptide, 100 µg/ml  
Kinase: 4 µg/ml
- Filter binding assay  
MSFC membrane (Millipore)

**Additional assay technology:**

JAK3 Lot 005 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-JAK3 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSM	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMG <b>HHHHHG</b>	RRRASVAAGI	240
241	<b>LVPRGSPGLD</b>	GICSRNSISS	<b>DYELLSDP TP</b>	<b>GALAPRDGLW</b>	<b>NGAQLYACQD</b>	<b>PTIFEERHLK</b>	300
301	<b>YISQLGKGNF</b>	<b>GSVELCRYDP</b>	<b>LDNTGALVA</b>	<b>VKQLQHS GPD</b>	<b>QQRDFQREIQ</b>	<b>ILKALHSDFI</b>	360
361	<b>VKYRGVSYGP</b>	<b>GRPELRLVME</b>	<b>YLP SGCLRDF</b>	<b>LQRHRARLDA</b>	<b>SRLLLYSSQI</b>	<b>CKGMEYLGSR</b>	420
421	<b>RCVHRDLAAR</b>	<b>NILVESEAHV</b>	<b>KIADFGLAKL</b>	<b>LPLDKDYV V</b>	<b>REPGQSPIFW</b>	<b>YAPESLSDNI</b>	480
481	<b>FSRQSDVWSF</b>	<b>GVVLYELFTY</b>	<b>CDKSCSPSAE</b>	<b>FLRMMGCERD</b>	<b>VPALCRLEL</b>	<b>LEEGQRLPAP</b>	540
541	<b>PACPAEVHEL</b>	<b>MKLCWAPSPQ</b>	<b>DRPSFSALGP</b>	<b>QLDMLWSGSR</b>	<b>GCETHAFTA H</b>	<b>PEGKHHSLSF</b>	600
601	<b>S</b>						660

1-218: GST **Red**: HIS6-tag **Pink**: Thrombin cleavage site **blue**: JAK3 fragment **boxed**: variation from RefSeq

JAK3 wt <sup>1</sup> Amino Acid Sequence							
1	MAPPSEETPL	IPQRSCSLLS	TEAGALHVLL	PARAPGPPQR	LSFSFGDHLA	EDLCVQAAKA	60
61	SGILPVYHSL	FALATEDLSC	WFPPSHIFSV	EDASTQVLLY	RIRFYFPNWF	GLEKCHRFGL	120
121	RKDLASAILD	LPVLEHLFAQ	HRSDLVSGRL	PVGLSLKEQG	ECLSLAVLDL	ARMAREQAQR	180
181	PGELLKTVSY	KACLPPSLRD	LIQGLSFVTR	RAIRRTVRRR	LPRVAACQAD	RHSLMAKYIM	240
241	DLERLDPAGA	AETFHVGLPG	ALGGHDGLGL	LRVAGDGGIA	WTQGEQEV LQ	PFCDFPEIVD	300
301	ISIKQAPRVG	PAGEHRLVTV	TRTDNQILEA	EFPGLPEALS	FVALVDGYFR	LTTDSQHFFC	360
361	KEVAPR LLE	EVAEQCHGPI	TLDFAINKLK	TGGSRPGSYV	LRRSPQDFDS	FLLTVCVQNP	420
421	LGPDYKGLI	RRSPTGTFL	VGLSRPHSSL	RELLATCWDG	GLHVDGVAVT	LTSCCIPRPK	480
481	EKSNLIVVQR	GHSPTTSSLV	QPQSQYQLSQ	MTFHKIPADS	LEWHENLGHG	SFTKIYRGCR	540
541	HEVVDGEARK	TEVLLKVM DA	KHKNCMESFL	EAASLMSQVS	YRHLVLLHGV	CMAGDSTMVQ	600
601	EFVHLG AIDM	YLRKRGH LVP	ASWKLQVVKQ	LAYALNYLED	KGLPHGNVSA	RKVLLAREGA	660
661	DGSPPFIKLS	DPGVSPAVLS	LEMLTDRI PW	VAPECLREAQ	TLSLEADKWG	FGATVWEVFS	720
721	GVTMPISALD	PAKKLQFYED	RQQLPAPKWT	ELALLIQQCM	AYEPVQRPSF	RAVIRDLNSL	780
781	<b>ISSDYELSD</b>	<b>PTPGALAPRD</b>	<b>GLWNGAQLYA</b>	<b>CQDPTIFEER</b>	<b>HLKYISQLGK</b>	<b>GNFGSVELCR</b>	840
841	<b>YDPLAHNTGA</b>	<b>LVAVKQLQHS</b>	<b>GPDQQRDFQR</b>	<b>EIQILKALHS</b>	<b>DFIVKYRGVS</b>	<b>YGPRPELRL</b>	900
901	<b>VMEYLP SGCL</b>	<b>RDFLQRHRAR</b>	<b>LDASRLLLYS</b>	<b>SQICKGMEYL</b>	<b>GSRRCVHRDL</b>	<b>AARNILVESE</b>	960
961	<b>AHVKIADFGL</b>	<b>AKLLPLDKDY</b>	<b>YVREPGQSP</b>	<b>IFWYAPESLS</b>	<b>DNIFSRQSDV</b>	<b>WSFGVVLYEL</b>	1020
1021	<b>FTYCDKSCSP</b>	<b>SAEFLRMMGC</b>	<b>ERDVPALCRL</b>	<b>LELLEEGQRL</b>	<b>PAPPACPAEV</b>	<b>HELMKLCWAP</b>	1080
1081	<b>SPQDRPSFSA</b>	<b>LGPQLDMLWS</b>	<b>GSRGCETHAF</b>	<b>TAHPEGKHHS</b>	<b>LSFS</b>		1140

**blue**: JAK3 sequence expressed in recombinant protein **Red**: variant in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_000206.1

A845G: congruent with reference sequence version NP\_000206.2

H846D: congruent with reference sequence version NP\_000206.2 and SNP variation see [NCBI/dbSNP](#) ID: rs1052526