

## VRK1

VRK serine/threonine kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: VRK1

Synonyms: n/a

Product No.: 0302-0000-1

Lot: 001

**Description:** Human VRK1, full length, amino acids M<sub>1</sub>-K<sub>396</sub> (as in [NCBI/Protein](#) entry NP\_003375.1), N-terminal GST-HIS<sub>6</sub> fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

**Product identity:** VRK1 Lot 001, was confirmed as VRK1 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW**<sub>Fusion Protein</sub>: 75,142 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, 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:** 0.269 µg/µl  
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

### Biochemical Parameters:

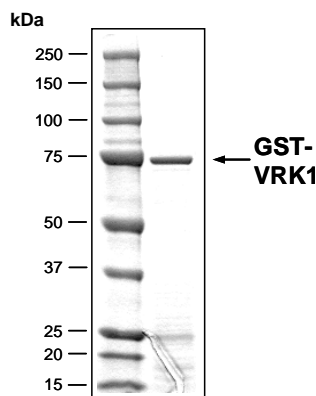
Specific kinase activity (P<sub>i</sub> transfer): 30 pmol/µg × min  
ATP-K<sub>M</sub>: 9.3 µM

### Additional assay technology:

VRK1 Lot 001 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

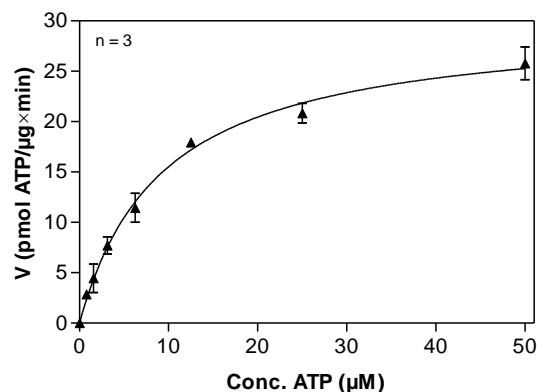
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### VRK1 Lot 001: Coomassie stain



Lot: SP001, 2.0 µg

### VRK1 Lot 001: 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: R<sub>11</sub>-S6-Peptide, 200 µg/ml
  - VRK1: 4 µg/ml
- Filter binding assay  
MSFC membrane (Millipore)

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GST-VRK1 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQG WQATF	GGGDHPPKSD	PMGHHHHHGG	RRRASVAAGI	240
241	LVPRGSPGLD	GIYARVKMPR	VKAAQAGRQS	SAKRHLAEQF	AVGEIITDMA	KKEWKVGLPI	300
301	GQGGFGCIYL	ADMNSSESVG	SDAPCVV KVE	PSDNGPLFTE	LKFYQRAAKP	EQIQKWIRTR	360
361	KLKYLGVPKY	WGSGLHDKNG	KSYRFMIMDR	FGSDLQKIYE	ANAKRFSRKT	VLQLSLRILD	420
421	ILEYIHEHEY	VHGDIKASNL	LLNYKNPDQV	YLVDYGLAYR	YCPEGVHKEY	KEDPKRCHDG	480
481	TIEFTSIDAH	NGVAPSRRGD	LEILGYCMIQ	WLTGHLPWED	NLKDPKYVRD	SKIRYRENIA	540
541	SLMDKCFPEK	NKPGEIAKYM	ETVKLLDYTE	KPLYENLRDI	LLQGLKAIGS	KDDGKLDLVS	600
601	VENGGLKAKT	ITKKRKEIE	ESKEPGVEDT	EWSNTQTEEA	IQTRSRTKRK	VQK	660

1-218: GST **Red**: HIS6-tag **Pink**: Thrombin cleavage site **blue**: VRK1

VRK1 wt <sup>1</sup> Amino Acid Sequence							
1	MPRV KAAQAG	RQSSAKRHLA	EQFAVGEIIT	DMAKKEWKVG	LPIGQGGFGC	IYLA DMNSSE	60
61	SVGSDAPCVV	KVEPSDNGPL	FTELKFYQRA	AKPEIQKWI	RTRKLYLGV	PKYWG SGLHD	120
121	KNGKSYRFMI	MDRFGSDLQK	IYEANAKRFS	RKTVLQLSLR	ILDILEYIHE	HEYVHGD IKA	180
181	SNLLLN YKNP	DQVYLVDYGL	AYRYCPEGVH	KEYKEDPKRC	HDGTIEFTSI	DAHNGVAPSR	240
241	RGDLEILGYC	MIQWLTGHL P	WEDNLKDPKY	VRDSKIRYRE	NIASLMDKCF	PEKNKPGEIA	300
301	KYMETVKLLD	YTEKPLYENL	RDILLQGLKA	IGSKDDGKLD	LSVVENGGLK	AKTITKRRKK	360
361	EIEESKEPGV	EDTEWSNTQT	EEAIQTRSRT	RKR VQK			420

**blue**: VRK1 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_003375.1

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