

## ProQinase™ PI4K2A

phosphatidylinositol 4-kinase type 2 alpha

**Recombinant Human Active Lipid Kinase**

**HGNC Symbol:** PI4K2A

**Synonyms:** PI4KII, PIK42A

**Lipid Kinase Family:** PI4K Class II

(according to: Phylogenomics of phosphoinositide lipid kinases: perspectives on the evolution of second messenger signaling and drug discovery: James R Brown & Kurt R Auger; BMC Evolutionary Biology 11, 4-14 (2011))

**Product No.:** 1202-0000-1

**Lot:** 001

**Description:** Human PI4K2A, full length, amino acids M<sub>1</sub>-W<sub>479</sub> (as in NCBI/Protein entry NP\_060895.1), N-terminal GST-HIS<sub>6</sub> fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

**Product identity:** PI4K2A Lot 001, was confirmed as PI4K2A by mass spectroscopy LC-ESI-MS/MS

**Activation:** This kinase was not activated by special procedures

**Theoretical MW<sub>Fusion Protein</sub>:** 82,111 Da

**Expression:** Baculovirus infected Sf9 cells

**Purification:** GST-Affinity Chromatography

**Storage buffer:** 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 15 mM reduced glutathione, 0.1 % Triton X-100, 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:** 0.262 µg/µl

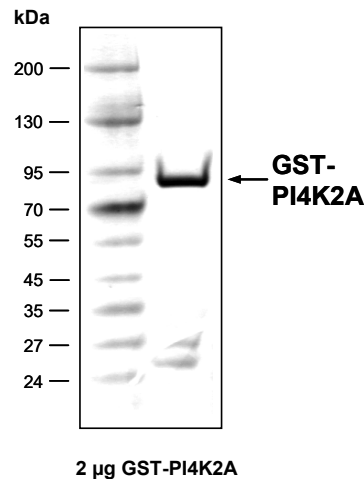
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

**Biochemical Parameters:**

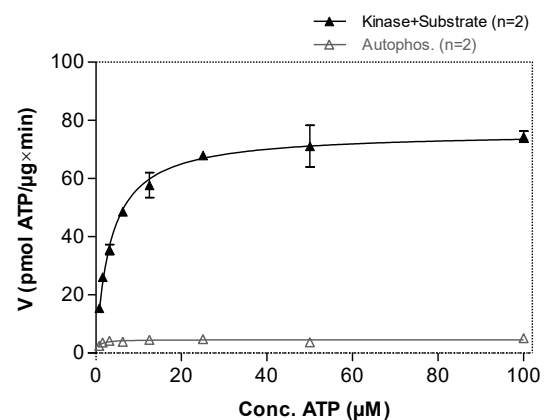
Specific kinase activity (P<sub>i</sub> transfer): 76 pmol/µg×min

ATP-K<sub>M</sub>: 3.4 µM

**PI4K2A Lot 001:  
Coomassie stain**



**PI4K2A Lot 001:  
Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP  
ADP-Glo™ Kinase assay / Promega**



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

Assay mixture:

50 mM HEPES-NaOH, pH 7.5

3 mM MnCl<sub>2</sub>

1 mM EGTA

100 mM NaCl

0,03% CHAPS

2 mM DTT

ATP: variable concentration

1 % (v/v) DMSO

Substrate: PI: 25 µM / PS: 225 µM

PI: L-alpha-phosphatidylinositol

PS: 1-Palmitoyl-2-Oleoyl-sn-Glycero-3-[Phospho-L-Serine]

PI4K2A: 1.0 µg/ml

For further information on ADP-Glo™ kinase activity detection please visit [Promega.com](http://Promega.com)

# ProQinase™ PI4K2A

Product No.: 1202-0000-1

PI4K2A Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMG <b>HHHHHH</b> G	RDS <b>LEVLFQG</b>	240
241	<b>PLAMDETSPL</b>	<b>VSPERAQPPD</b>	<b>YTFPSGSGAH</b>	<b>FPQVPGGAVR</b>	<b>VAAAAGSGPS</b>	<b>PPGSPGHDRE</b>	300
301	<b>RQPLLDLRARG</b>	<b>AAAQGQTQTV</b>	<b>AAQAQALAAQ</b>	<b>AAAAAHAAQA</b>	<b>HRERNEFPED</b>	<b>PEFEAVVROA</b>	360
361	<b>ELAIERCIFP</b>	<b>ERIYQSSSGS</b>	<b>YFVKDPQGRI</b>	<b>IAVFKPKNEE</b>	<b>PYGHLNPKWT</b>	<b>KWLQKLCPC</b>	420
421	<b>CFGRDCLVLN</b>	<b>QGYLSEAGAS</b>	<b>LVDQKLELNI</b>	<b>VPRTKVVYLA</b>	<b>SETFNYSRID</b>	<b>RVKSRGKRLA</b>	480
481	<b>LEKVPKVGQR</b>	<b>FNRIGLPPKV</b>	<b>GSFQLFVEGY</b>	<b>KDADYWLRRF</b>	<b>EAEPLPENTN</b>	<b>RQLLLQFERL</b>	540
541	<b>VVLDYIIRNT</b>	<b>DRGNDNWLIK</b>	<b>YDCPMDSSSS</b>	<b>RDTDWVVVKE</b>	<b>PVIKVAIDN</b>	<b>GLAFPLKHPD</b>	600
601	<b>SWRAYPFYWA</b>	<b>WLPQAKVPFS</b>	<b>QEIKDLILPK</b>	<b>ISDPNFVKDL</b>	<b>EEDLYELFKK</b>	<b>DPGFDRGQFH</b>	660
661	<b>KQIAVMRQGI</b>	<b>LNLTLQALKDN</b>	<b>KSPLHLVQMP</b>	<b>PVIVETARSH</b>	<b>QRSSSESYTQ</b>	<b>SFQSRKPFSS</b>	720
721	<b>W</b>						780

1-218: GST **Red:** HIS6-tag **Green:** 3C cleavage site **blue:** PI4K2A

PI4K2A wt <sup>1</sup> amino acid sequence							
1	<b>MDETSPLVSP</b>	<b>ERAQPPDYTF</b>	<b>PSGSGAHFPQ</b>	<b>VPGGAVRVAA</b>	<b>AAGSGSPPPG</b>	<b>SPGHDRERQP</b>	60
61	<b>LLDRARGAAA</b>	<b>QGQTQTVAAQ</b>	<b>AQALAAQAAA</b>	<b>AAHAAQAHRE</b>	<b>RNEFPEDPEF</b>	<b>EAVVRQAELA</b>	120
121	<b>IERCIFPERI</b>	<b>YQGSSGSYFV</b>	<b>KDPQGRITAV</b>	<b>FKPKNEEPYG</b>	<b>HLNPKWTKWL</b>	<b>QKLCPCCFG</b>	180
181	<b>RDCLVLNQGY</b>	<b>LSEAGASLVD</b>	<b>QKLELNIVPR</b>	<b>TKVVYLASET</b>	<b>FNYSRIDRVK</b>	<b>SRGKRLALEK</b>	240
241	<b>VPKVGQRFNR</b>	<b>IGLPPKVGSF</b>	<b>QLFVEGYKDA</b>	<b>DYWLRRFEAE</b>	<b>PLPENTNRQL</b>	<b>LLQFERLVVL</b>	300
301	<b>DYIIRNTDRG</b>	<b>NDNWLIKYDC</b>	<b>PMDSSSSRDT</b>	<b>DWVVVKEPVI</b>	<b>KVAIDNGLA</b>	<b>FPLKHPDSWR</b>	360
361	<b>AYPFYWAWLP</b>	<b>QAKVPFSQEI</b>	<b>KDLILPKISD</b>	<b>PNFVKDLEED</b>	<b>LYELFKKDPG</b>	<b>FDRGQFHKQI</b>	420
421	<b>AVMRQIILNL</b>	<b>TQALKDNKSP</b>	<b>LHLVQMPPIV</b>	<b>VETARSHQRS</b>	<b>SSESYTQSFQ</b>	<b>SRKPFSSWW</b>	480

**blue:** PI4K2A sequence expressed in fusionprotein

<sup>1</sup>NCBI/Protein accession number NP\_060895.1

Recombinant Proteins