

# PIK3C2G

phosphoinositide-3-kinase, class 2, gamma polypeptide

## Recombinant Human Active Lipid Kinase

**HGNC Symbol:** PIK3C2G

**Synonyms:** PI3K-C2GAMMA, PI3K-C2-gamma

### Lipid Kinase Family: PI3K 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.:** 1207-0000-1

**Lot:** 001

**Description:** Human PIK3C2G, internal fragment, amino acids Y<sub>468</sub>-R<sub>1243</sub> (as in NCBI/Protein entry AAI44135.1), N-terminal GST-HIS<sub>6</sub> fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

**Product identity:** PIK3C2G Lot 001, was confirmed as PIK3C2G by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW<sub>Fusion Protein</sub>:** 117,749 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, 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:** 0.102 µg/µl

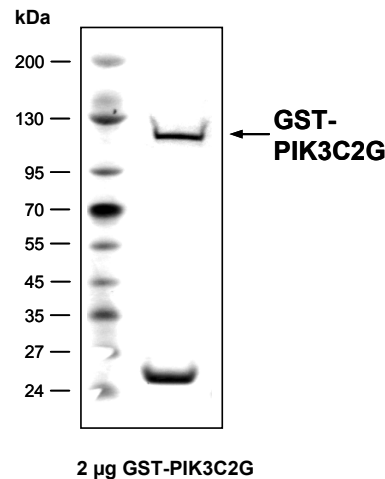
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

### Biochemical Parameters:

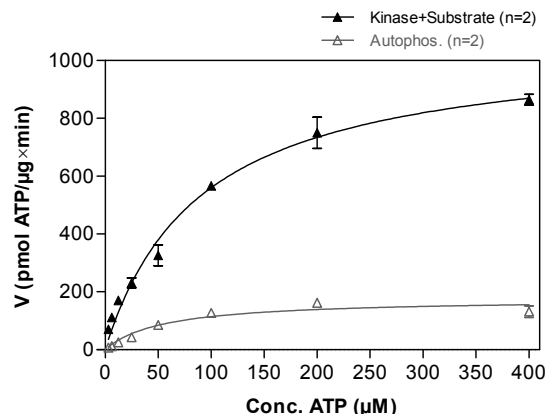
Specific kinase activity (P<sub>i</sub> transfer): 1066 pmol/µg×min

ATP-K<sub>M</sub>: 90 µM

### PIK3C2G Lot 001: Coomassie stain



### PIK3C2G 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:

50 mM HEPES-NaOH, pH 7.5

3 mM MgCl<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]

PIK3C2G: 1.0 µg/ml

• Assay technology:

ADP-Glo Assay (Promega)

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

# PIK3C2G

Product No.: 1207-0000-1

| PIK3C2G Recombinant Fusion Protein Amino Acid Sequence |             |             |             |            |             |             |      |
|--|-------------|-------------|-------------|------------|-------------|-------------|------|
| 1  | MSPILGYWKI  | KGLVQPTRLL  | LEYLEEKYE   | HLYERDEGDK | WRNKKFELGL  | EFPNLPYYID  | 60   |
| 61   | GDVKLTQ SMA | IIRYIADKHN  | MLGGCPKERA  | EISMLEGAVL | DIRYGVSR IA | YSKDFETLKV  | 120  |
| 121  | DFLSKLP EML | KMFEDRLCHK  | TYLNGDHVTH  | PDFMLYDALD | VVLYMDPMCL  | DAFPKLVCFK  | 180  |
| 181  | KRIEAI PQID | KYLKSSKYIA  | WPLQGWQATF  | GGGDHPPKSD | PMGHHHHHG   | RDSLEVLFGG  | 240  |
| 241  | PLAMVYQSSE  | TSAGLIEKV   | TTTELSTSIYQ | LINVYCNSFY | ADFQPVNVPR  | CTSYLNPGLP  | 300  |
| 301  | SHLSFTVYAA  | HNIPETWVHS  | YKAFSFTCWL  | TYAGKKLCQV | RNYRNI PDKK | LFFFVLVWNE  | 360  |
| 361  | TINFPLEIKS  | LPRESMLTVK  | LFGIACATNN  | ANLLAWTCLP | LFPKEKSILG  | SMLFSMTLQS  | 420  |
| 421  | EPPVEMITPG  | VWDVSQSPSV  | TLQIDFPATG  | WEYMKPDSEE | NRSNLEEPLK  | ECIKHIARLS  | 480  |
| 481  | QKQTPLLLSE  | EKKRYLWFYR  | FYCNNENCSL  | PLVLGSAPGW | DERTVSEMHT  | ILRRWTF SQP | 540  |
| 541  | LEALGLLTSS  | FPDQEIRKVA  | VQQLDNLLND  | ELLEYPQLV  | QAVKFEWNLE  | SPLVQLLLHR  | 600  |
| 601  | SLQSIQVAHR  | LYWLLKNAEN  | EAYFKSWYQK  | LLAALQFCAG | KALNDEFSKE  | OKLIKILGDI  | 660  |
| 661  | GERVKSASDH  | QRQEV LKKEI | GRLEEFFQDV  | NTCHLPLNPA | LCIKGIDHDA  | CSYFTSNALP  | 720  |
| 721  | LKITFINANL  | MGNISIIIFK  | AGDDL RQDML | VLQLIQVMDN | IWLQEG LDMQ | MI IYRCLSTG | 780  |
| 781  | KDQGLVQ MVP | DAVTLAKIHR  | HSGLIGPLKE  | NTIKKWFSQH | NHLKADYEKA  | LRNFFYSCAG  | 840  |
| 841  | WCVVTFILGV  | CDRHNDNIML  | TKSGHMFHID  | FGKFLGHAQT | FGGIKRDRAP  | FIFTSEMEYF  | 900  |
| 901  | ITEGGKNPQH  | FQDFVELCCR  | AYNIIRKHSQ  | LLLNLLEMML | YAGLPELSGI  | QDLKYVYNNL  | 960  |
| 961  | RPQD TDLEAT | SHFTKKIKES  | LECFPVK LNN | LIHTLAQMSA | ISPAKSTSQT  | FPQESCLLST  | 1020 |
| 1021   | TR          |             |             |            |             |             | 1080 |

1-218: GST    **Red:** HIS6-tag    **Green:** 3C cleavage site    **blue:** PIK3C2G

| PIK3C2G wt <sup>1</sup> Amino Acid Sequence |             |            |             |             |             |             |      |
|---|-------------|------------|-------------|-------------|-------------|-------------|------|
| 1   | MAYSWQ TDPN | PNESHEKQYE | HQEF LFNQ P | HSSSQVSLGF  | DQIVDEISGK  | IPHYESEIDE  | 60   |
| 61  | NTFFVPTAPK  | WDSTGHSLNE | AHQISLNEFT  | SKSRELSWHQ  | VSKAPAIGFS  | PSVLPKPQNT  | 120  |
| 121   | NKECSWGSIG  | KHHGADDSRF | SILALSFTSL  | DKINLEKELE  | NENHNYHIGF  | ESSIPPTNSS  | 180  |
| 181   | FSSDFMPKEE  | NKRSGHVNIV | EP SMLLKG S | LQPGMWESTW  | QKNIESIGCS  | IQLVEVPQSS  | 240  |
| 241   | NTSLASFCNK  | VKKIRERYHA | ADVNFNSGKI  | WSTTTAFPYQ  | LFSKTKFNIH  | IFIDNSTQPL  | 300  |
| 301   | HF MPCANYLV | KDLIAEILHF | CTNDQLLPKD  | HILSVCGSEE  | FLQNDHCLGS  | HKMFQKDKSV  | 360  |
| 361   | IQLHLQKSRE  | APGKLSRKHE | EDHSQFYLNQ  | LLEFMHIWKV  | SRQCLLTLIR  | KYDFHLKYLL  | 420  |
| 421   | KTQENVYNI I | EEVKKICSVL | GCVETKQITD  | AVNELSLILQ  | RKGENFYQSS  | ETSAGGLIEK  | 480  |
| 481   | VTTTELSTSIY | QLINVYCNSF | YADFQPVNVP  | RCTSYLNPGL  | PSHLSFTVYA  | AHNIPETWVH  | 540  |
| 541   | SYKAFSFTCW  | LTYAGKKLCQ | VRNYRNI PDK | KLFFFVLVW N | ETINFPLEIK  | SLPRESMLTV  | 600  |
| 601   | KLFGIACATN  | NANLLAWTCL | PLFPKEKSIL  | GSMLFSMTLQ  | SEPPVEMITP  | GVWDVSQSP   | 660  |
| 661   | VTLQIDFPAT  | GWEYMKPDSE | ENRSNLEEPL  | KECIKHIARL  | SQKQTPLLLS  | EKKRYLWFY   | 720  |
| 721   | RFYCNNENCS  | LPLVLGSAPG | WDERTVSEM H | TILRRWTF SQ | PLEALGLLTS  | SFPDQEIRKV  | 780  |
| 781   | AVQQLDNLLN  | DELLEYLPQL | VQAVKFEWNL  | ESPLVQLLLH  | RSLQSIQVAH  | RLYWLLKNAE  | 840  |
| 841   | NEAYFKSWYQ  | KLLAALQFCA | GKALNDEFSK  | EQKLILKILGD | IGERVKSASD  | HQRQEV LKKE | 900  |
| 901   | IGRLEEFFQD  | VNTCHLPLNP | ALCIKGIDHD  | ACS YFTSNAL | PLKITFINAN  | LMGNISIIIF  | 960  |
| 961   | KAGDDL RQDM | LVLQLIQVMD | NIWLQEG LDM | QMI IYRCLST | GKDQGLVQ MV | PDAVTLAKIH  | 1020 |
| 1021  | RHSG LIGPLK | ENTIKKWFSQ | HNHLKADYEK  | ALRNFFYSCA  | GWCVVTFILG  | VCDRHNDNIM  | 1080 |
| 1081  | LTKSGHMFHI  | DFGKFLGHAQ | TFGGIKRDR A | PFIFTSEMEY  | FITEGGKNPQ  | HFQDFVELCC  | 1140 |
| 1141  | RAYNIIRKHS  | QLLLNLLEMM | LYAGLPELSG  | IQDLKYVYNN  | LRPQD TDLEA | TSHFTKKIKE  | 1200 |
| 1201  | SLECFPVKLN  | NLIHTLAQMS | AISPAKSTSQ  | TFPQESCLLS  | TTRSIERATI  | LGFSKSSNL   | 1260 |
| 1261  | YLIQVTHSNN  | ETSLTEKSFE | QFSKLHSQ LQ | KQFASLT LPE | FPHWWHL PFT | NSDHRRFRDL  | 1320 |
| 1321  | NHYMEQILNV  | SHEVTNSDCV | LSFFLSEAVQ  | QTVEESSPVY  | LGEKFPDKKP  | KVQLVISYED  | 1380 |
| 1381  | VKLTILVKHM  | KNIHLPDGSA | PSAHVEFYLL  | PYPSEVRRRK  | TKSVPKCTDP  | TYNEIVVYDE  | 1440 |
| 1441  | VTELQGHVLM  | LIVKSKTVFV | GAINIRLCSV  | PLDKEKWYPL  | GNSII       |             | 1500 |

**blue:** PIK3C2G sequence expressed in fusionprotein

<sup>1</sup>NCBI/Protein accession number AAI44135.1