

PIK3C2G

phosphatidylinositol-4-phosphate 3-kinase catalytic subunit type 2 gamma

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: 003

Description: Human PIK3C2G, internal fragment, amino acids Y₄₆₈-R₁₂₄₃ (as in [NCBI/Protein](#) entry AAI44135.1), N-terminal GST-HIS₆ fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

Product identity: PIK3C2G Lot 003, was confirmed as PIK3C2G by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 117,749 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, 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: 0.189 µg/µl

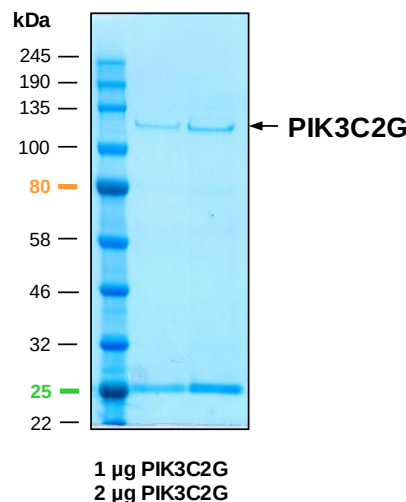
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

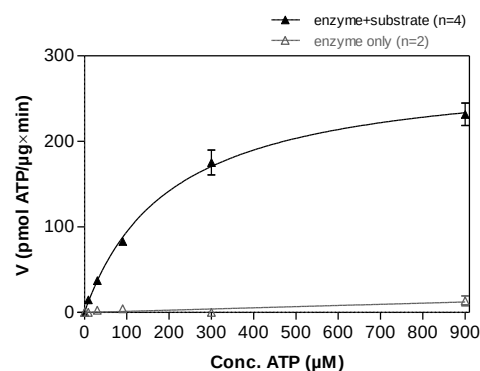
Specific kinase activity (P_i transfer): 286 pmol/µg × min

ATP-K_M: 203 µM

**PIK3C2G Lot 003:
Coomassie stain**



**PIK3C2G Lot 003:
Determination of V_{max} and K_M value for ATP**



Determination of K_M value & Specific activity:

- Assay conditions:
 - 50 mM HEPES-NaOH, pH 7.5
 - 3 mM MgCl₂
 - 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 µg/ml
- Assay technology:
 - ADP-Glo (Promega)

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PIK3C2G

Product No.: 1207-0000-1

GST-PIK3C2G Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RDSLEVLFGQ	240
241	PLAMVYQSSE	TSAGLIEKV	TTELSTSIYQ	LINVYCNSFY	ADFQPVNVPR	CTSYLNPGLP	300
301	SHLSFTVYAA	HNIPETWVHS	YKAFSFTCWL	TYAGKKLCQV	RNYRNIPDKK	LFFFLVNWNE	360
361	TINFPLEIKS	LPRESMLTVK	LFGIACATNN	ANLLAWTCLP	LFPKEKSILG	SMLFSMTLQS	420
421	EPPVEMITPG	VWDVSQSPV	TLQIDFPATG	WEYMKPDSEE	NRSNLEEPLK	ECIKHIARLS	480
481	QKQTPLLLSE	EKKRYLWFYR	FYCINNENCSL	PLVLGSAPGW	DERTVSEMHT	ILRRWTFSSQ	540
541	LEALGLLTSS	FPDQEIRKVA	VQQLDNLLND	ELLEYPQLV	QAVKFEWNLE	SPLVQLLLHR	600
601	SLQSIQVAHR	LYWLLKNAEN	EAYFKSWYQK	LLAALQFCAG	KALNDEFSKE	QKLIKILGDI	660
661	GERVKSASDH	QRQEVLLKEI	GRLEEFFQDV	NTCHLPLNPA	LCIKGIDHDA	CSYFTSNALP	720
721	LKITFINANL	MGNISIIIFK	AGDDLQDML	VLQLIQVMDN	IWLQEGMDQ	MIIYRCLSTG	780
781	KDQGLVQMV	DAVTLAKIHR	HSGLIGPLKE	NTIKKWFSQH	NHLKADYEKA	LRNFFYSCAG	840
841	WCVVTFILGV	CDRHNDNIML	TKSGHMFHID	FGKFLGHAQT	FGGIKRDRA	FIFTSEMEYF	900
901	ITEGGKNPQH	FQDFVELCCR	AYNIIRKHSQ	LLLNLLEML	YAGLPELSGI	QDLKYVYNNL	960
961	RPQDTDLEAT	SHFTKKIKES	LECFPVKLN	LIHTLAQMSA	ISPAKSTSQT	FPQESCLLST	1020
1021	TR						1080

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

PIK3C2G wt¹ Amino Acid Sequence

1	MAYSWQTDPN	PNESHEKQYE	HQEFLLVNQP	HSSSQVSLGF	DQIVDEISGK	IPHYESEIDE	60
61	NTFFVPTAPK	WDSTGHSLE	AHQISLNEFT	SKSRELSWHQ	VSKAPAIGFS	PSVLPKPQNT	120
121	NKECSWGSIG	KHHGADDSRF	SILALSFTSL	DKINLEKELE	NENHNYHIGF	ESSIPPTNSS	180
181	FSSDFMPKEE	NKRSGHVNIV	EPSLMLLKGS	LQPGMWESTW	QKNIESIGCS	IQLVEVPQSS	240
241	NTSLASFCNK	VKKIRERYHA	ADVNFNSGKI	WSTTTAFPHY	LFSKTKFNIH	IFIDNSTQPL	300
301	HFMPCANILV	KDLIAEILHF	CTNDQLLPKD	HILSVCGSEE	FLQNDHCLGS	HKMFQDKDSV	360
361	IQLHLQKSRE	APGKLSRKHE	EDHSQFYLNQ	LLEFMHIWKV	SRQCLLTIR	KYDFHLKYLL	420
421	KTQENVYNI	EEVKKICSVL	GCVETKQITD	AVNELSLILQ	RKGENFYQSS	ETSAKGLIEK	480
481	VTELSTSIY	QLINVYCNSF	YADFQPVNV	RCTSYLNPG	PSHLSFTVYA	AHNIPETWVH	540
541	SYKAFSFTCW	LTAGKKLCQ	VRNYRNIPDK	KLFFFLVNW	ETINFPLEIK	SLPRESMLTV	600
601	KLFGIACATN	NANLLAWTCL	PLFPKEKSIL	GSMLFSMTLQ	SEPPVEMITP	GVWDVSQSP	660
661	VTLQIDFPAT	GWEYMKPDSE	ENRSNLEEPL	KECIKHIARL	SQKQTPLLS	BEKKRYLWFY	720
721	RFYCINNENCS	LPLVLGSAPG	WDERTVSEMH	TILRRWTFSSQ	PLEALGLLTS	SFPDQEIRKV	780
781	AVQQLDNLLN	DELLEYLPQL	VQAVKFEWNL	ESPLVQLLLH	RSLQSIQVAH	RLYWLLKNAE	840
841	NEAYFKSWYQ	KLLAALQFCA	GKALNDEFSK	EQKLIKILGD	IGERVKSASD	HQRQEVLLKE	900
901	IGRLEEFFQD	VNTCHLPLNP	ALCIKGIDHD	ACSIFTSNAL	PLKITFINAN	LMGKNISIIF	960
961	KAGDDLQDM	LVLQLIQVMD	NIWLQEGMD	QMIIRYCLST	GKDQGLVQMV	PDAVTLAKIH	1020
1021	RHSGDLRQDM	ENTIKKWFSS	HNHLQADYEK	ALNRFFYSKA	GWCVVTFILG	VCDRHNDNIM	1080
1081	LTKSGHMFHI	DFGKFLGHAQ	TFGGIKRDRA	PFIFTSEMEY	FITEGGKNPQ	HFQDFVELCC	1140
1141	RAYNIIRKHS	QLLLNLLEMM	LYAGLPELSG	IQDLKYVYNN	LRPQDTDLEA	TSHFTKKIKE	1200
1201	SLECFPVKLN	NLIHTLAQMS	AISPAKSTSQ	TFPQESCLLS	TTRSIERATI	LGFSKKSSNL	1260
1261	YLIQVTHSNN	ETSLTEKSFE	QFSKLHSQSQ	KQFASLTLP	FPHWWHLPT	NSDHRRFRDL	1320
1321	NHYMEQILNV	SHEVTNSDCV	LSFFLSEAVQ	QTVEESSPVY	LGEKFPDKKP	KVQLVISYED	1380
1381	VKLITLVKHM	KNIHLPDGSA	PSAHVEFYLL	PYPSEVRRRK	TKSVPKCTDP	TYNEIVVYDE	1440
1441	VTELQGHVLM	LIVKSKTVFV	GAINIRLCSV	PLDKEKWYPL	GNSII		1500

blue: PIK3C2G sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number AAI44135.1