

ProQinase™ 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 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 001, was confirmed as PIK3C2G by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 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!

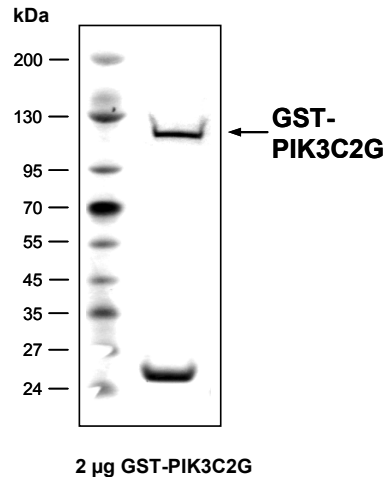
Protein concentration: 0.102 µg/µl

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

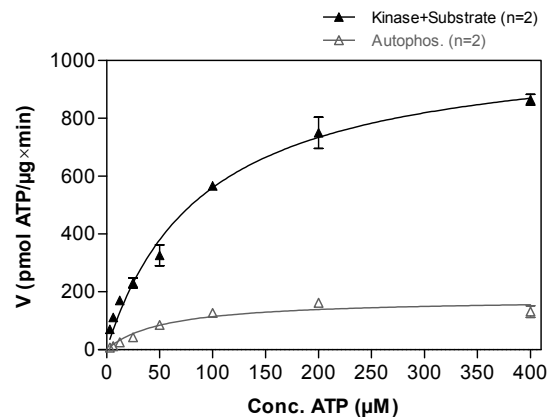
Biochemical Parameters:

Specific kinase activity (P_i transfer): 1066 pmol/µg×min
ATP-K_M: 90 µM

**PIK3C2G Lot 001:
Coomassie stain**



**PIK3C2G Lot 001:
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: 1.0 µg/ml
- Assay technology:
 - ADP-Glo Assay (Promega)

For further information on ADP-Glo™ kinase activity detection please visit Promega.com

ProQinase™ PIK3C2G

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Recombinant Proteins

PIK3C2G 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	PMGHHHHHG	RDSLEVLFGQ	240
241	PLAMVYQSSE	TSAKGLIEKV	TTELSTSIYQ	LINVYCNSFY	ADFQPVNVR	CTSYLNPGLP	300
301	SHLSFTVYAA	HNIPETWVHS	YKAFSFTCW	TYAGKKLCQV	RNYRNIPDK	LFFFLVNWNE	360
361	TINFPLEIKS	LPRESMLTVK	LFGIACATNN	ANLLAWTCLP	LFPKEKSILG	SMLFSMTLQS	420
421	EPPVEMITPG	VWDVSPSPV	TLQIDFPATG	WEYMKPDSEE	NRSNLEELK	ECIKHIARLS	480
481	QKQTPLLLSE	EKKRYLWFYR	FYCNNENCSL	PLVLGSAPGW	DERTVSEMHT	ILRRWTFSPQ	540
541	LEALGLLTSS	FDPQEIIRKVA	VQQLDNLNLD	ELLEYLPQLV	QAVKFEWNL	SPLVQLLLHR	600
601	SLQSIQVAHR	LYWLLKNAEN	EAYFQSWYQK	LLAALQFCAG	KALNDEFWSKE	QKLIKILGDI	660
661	GERVKSASDH	QRQEVLKKEI	GRLEEFFQDV	NTCHLPLNPA	LCIKGIDHDA	CSYFTSNALP	720
721	LKITFINANL	MGKNISIIIFK	AGDDLRLQDML	VLQLIQVMDN	IWLQEGLDLQ	MIYRCLSTG	780
781	KDQGLVQMPV	DAVTLAKIHR	HSGLIGPLKE	NTIKKWFSSQ	NHLKADYEKA	LRNFFYSCAG	840
841	WCVVTFILGV	CDRHNDNIML	TKSGHMFHID	FGKFLGHAQT	FGGIKRDRA	FIFTSEMEYF	900
901	ITEGGKNPQH	FQDFVELCCR	AYNIIRKHSQ	LLLNLLEMLL	YAGLPELSGI	QDLKYVYNNL	960
961	RPQDLDLEAT	SHFTTKIKES	LECFPVKLN	LIHTLAQMSA	ISPAKSTSQT	FPQESCLLST	1020
1021	TR						1080

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

PIK3C2G wt¹ Amino Acid Sequence

1	MAYSWQTDPN	PNESHEKQYE	HQEFFLVNQP	HSSSQVSLGF	DQIVDEISGK	IPHYESEIDE	60
61	NTFFVPTAPK	WDSTGHSLNE	AHQISLNEFT	SKSRELSWHQ	VSKAPAIGFS	PSVLPKPQNT	120
121	NKECSWFSGIG	KHHGADDSRF	SILALSFTSL	DKINLEKELE	NENHNYHIGF	ESSIPPTNSS	180
181	FSSDFMPKKEE	NKRSGHVNIV	EPSLMLLKGS	LQPGMWESTW	QKNIESIGCS	IQLVEVPQSS	240
241	NTSLASFNCN	VKKIRERYHA	ADVNFNSGKI	WSTTAFPYQ	LFSKTKFNH	IFIDNSTQPL	300
301	HFMPCANILV	KDLIAEILHF	CTNDQLLPKD	HILSVCGSEE	FLQNDHCLGS	HKMFQDKSV	360
361	IQLHLQKSRE	APGKLSRKHE	EDHSQFYLNQ	LLEFMHIWKV	SRQCLLTIR	KYDFHLKYL	420
421	KTQENVYNI	EEVKKICSVL	GCVETKQITD	AVNELSLILQ	RKGENFYQSS	ETSAKGLIEK	480
481	VTELSTSIY	QLINVYCNSF	YADFQPVNVP	RCTSYLNPG	PSHLSFTVYA	AHNIPETWVH	540
541	SYKAFSFTCW	LTYAGKKLCQ	VRNYRNIPDK	KLFFFLVNW	ETINFPLEIK	SLPRESMLTV	600
601	KLFGIACATN	NANLLAWTCL	PLFPKEKSIL	GSMLFSMTLQ	SEPPVEMITP	GVWDVSPSP	660
661	VTLQIDFPAT	GWEYMKPDSE	ENRSNLEELP	KECIKHIARL	SQKQTPLLS	EKKRYLWFY	720
721	RFYCNNENCS	LPLVLGSAPG	WDERTVSEMH	TILRRWTFSQ	PLEALGLLTS	SFPDQEIIRK	780
781	AVQQLDNLN	DELLEYLPQL	VQAVKFEWNL	ESPLVQLLLH	RSLSIQVAH	RLYWLLKNAE	840
841	NEAYFKSWYQ	KLLAALQFCA	GKALNDEFK	EQKLIKILGD	IGERVKSASD	HQRQEVLKKE	900
901	IGRLEEFFQD	VNTCHLPLNP	ALCIKGIDHD	ACSYFTSNAL	PLKITFINAN	LMGKNISIIIF	960
961	KAGDDLRLQD	LVLQLIQVMD	NIWLQEGLD	QMIYRCLST	GKDQGLVQMV	PDAVTLAKIH	1020
1021	RHSGLIGPLK	ENTIKKWFSSQ	HNHLKADYEK	ALRNFFYSCA	GWCVVTFILG	VCDRHNDNIM	1080
1081	LTKSGHMFHI	DFGKFLGHAQ	TGGIKRDRA	PFIIFTSEMEY	FITEGGKNPQ	HFQDFVELCC	1140
1141	RAYNIIRKHS	QLLNLEMLL	LYAGLPELSG	IQDLKYVYNN	LRPQDLDLEA	TSHFTTKIKE	1200
1201	SLECFPVKLN	NLIHTLAQMS	AISPAKSTSQ	TFPQESCLLS	TTRSIERATI	LGFSKSSNL	1260
1261	YLIQVTHSNN	ETSLTEKSFE	QFSKLHSQIQ	KQFASLTPE	FPHWWHLPT	NSDHRRFRDL	1320
1321	NHYMEQILNV	SHEVTNSDCV	LSFFLSEAVQ	QTVVESSPVY	LGEKFPDKKP	KVQLVISYED	1380
1381	VKLTILVKHM	KNIHLPDGS	PSAHVEFYLL	PYPSEVRRRK	TKSVPKCTDP	TYNEIVVYDE	1440
1441	VTELQGHVLM	LIVKSKTVFV	GAINIRLCSV	PLDKEKWYPL	GNSII		1500

blue: PIK3C2G sequence expressed in fusionprotein

¹NCBI/Protein accession number AAI44135.1