

PIK3CG

phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit gamma

Recombinant Human Active Lipid Kinase

HGNC Symbol: PIK3CG

Synonyms: p120-PI3K, PI3CG, PI3K, PI3K-gamma, PIK3

Lipid Kinase Family: PI3K Class I

(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.: 1163-0000-1

Lot: 002

Description: Human PIK3CG, full length, amino acids M₁-A₁₁₀₂ (as in [NCBI/Protein](#) entry NP_002640.2), N-terminal HIS₆ fusion protein with a Thrombin and TEV cleavage site, expressed in Sf9 insect cells

Product identity: PIK3CG Lot 002, was confirmed as PIK3CG by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 132,406 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, 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: 0.577 µg/µl

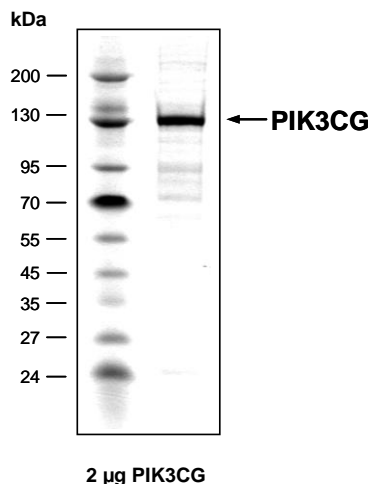
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

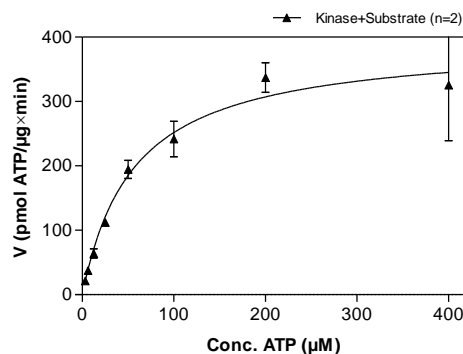
Specific kinase activity (P_i transfer): 394 pmol/µg × min

ATP-K_M: 56 µM

PIK3CG Lot 002: Coomassie stain



PIK3CG Lot 002: 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: PIP₂: 50 µM / PS: 950 µM

PIP₂: 08:0 PI(4,5)P₂ (1,2-Dioctanoyl-sn-Glycero-3-(Phosphoinositol-4,5-Bisphosphate)

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

PIK3CG: 1 µg/ml

• Assay technology:

ADP-Glo (Promega)

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PIK3CG

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HIS-PIK3CG Recombinant Fusion Protein Amino Acid Sequence												
1	MSPIDPMG	HH	HHH	GRRRAS	VAAGI	LVPRG	SPGLDGIYAR	TENLYFQ	GAM	GARGR	MELEN	60
61	YKQPVV	LRED	NCRRRRR	MKP	RSAAAS	LSM	ELIPIEFVLP	TSQRKCK	SPE	TALLH	VAGHG	120
121	NVEQMK	QVW	LRALETS	VAA	DFYHRL	GPHH	FLLLYQKK	GQ	WYEIYDK	YQV	VQTLDC	180
181	KATHRSP	QI	HLVQRH	PPSE	ESQAFQ	RQLT	ALIGYD	VTDV	SNVHDE	LEF	TRRGLV	240
241	AEVASR	DPKL	YAMHPW	VTSK	PLPEYL	WKKI	ANNCIF	VIH	RSTTSQ	TIKV	SPDDTP	300
301	QSFFT	KMAK	KSLMDI	PESQ	SEQDFV	LRCV	GRDEYL	VGET	PIKNFQ	WVRH	CLKNGE	360
361	VLDTPP	DPAL	DEVKKE	EWPL	VDDCTG	VGTGY	HEQLTI	HGKD	HESVFT	TVSLW	DCDRKF	420
421	RGIDIP	VLP	NTDLT	VFVEA	NIQHGO	QVLC	QRRTSP	KPFT	EEVLWN	VWLE	FSIKIK	480
481	GALLNL	QIYC	GKAPAL	SSKA	SAESPS	SESK	GKVQLL	YYVN	LLLIDH	RFL	RRGEYV	540
541	QISGKG	EDQG	SFNADK	LTS	TNPKEN	SMS	ISILLD	NYCH	PIALPK	HQPT	PDPEGD	600
600	EMPNQL	RKQL	EAIATD	PLN	PLTAED	KELL	WHFRY	ESLKH	PKAYPK	LFS	VKWGOQ	660
661	KTYQLL	ARRE	VWDQS	ALDVG	LTMQLL	CNF	SDENV	RAIAV	QKLES	LEDD	VLHYLL	720
721	AVKFEP	YHDS	ALARFL	LKRG	LRNKRI	GHFL	FWFLR	SEIAQ	SRHYQ	QRFV	ILEAYL	780
781	TAMLHD	FTQQ	VQVIEM	LQKV	TLDIKS	LSAE	KYDVSS	QVIS	QLKQK	LENLQ	NSQLPE	840
841	PYDPGL	KAGA	LAIEK	CKVMA	SKKKPL	WLEF	KCADPT	ALSN	ETIGII	FKHG	DDLQD	900
901	QILRIM	ESI	W	ETESLD	LCLL	PYGC	ISTGDK	IGMIEI	VKDA	TTIAKI	QOST	960
961	VLNHWL	KEKS	PTEEFQ	AAV	ERFVYS	CAGY	CVATFV	LGIG	DRHND	NIMIT	ETGNLF	1020
1021	GHILGN	YKSF	LGINKER	VPF	VLTPDF	LDFVM	GTSGK	KTSPH	FQKFD	ICVK	AYLALR	1080
1081	LLIILF	SML	MTGMP	QLTSK	EDIEY	IRDAL	TVGKNE	EDAK	KYFLD	QIEVC	RDKGW	1140
1141	WFLHLV	LGIK	QGEK	SA								1200

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: PIK3CG

PIK3CG wt ¹ Amino Acid Sequence												
1	MELENY	KQPV	VLREDN	NCRRR	RRMKPR	SAAA	SLSSMELIPI	EFVLPTS	QQRK	CKSPET	ALLH	60
61	VAGHGN	VEQM	KAQVWL	RALE	TSVAAD	FYHR	LGP HHFL	LLLY	QKKGQ	WYEIY	DKYQV	120
121	CLRYWK	KATHR	SPGQI	HLVQR	HPPSE	EQAF	QRQLTAL	IGY	DVTDV	SNVH	DELEF	180
181	VTPRMA	EVAS	RDPKLY	AMHP	WVTSK	PLPEY	LWKKIAN	NCI	FIVIH	RSTTS	QTIKVS	240
241	PGAILQ	SFFT	KMAKK	SLMD	IPESQ	SEQDF	VLRVCG	RDEY	LVGET	PIKNF	QWVRH	300
301	EELHVV	LDT	PDPAL	DEVK	EEWPL	VDDCT	GVTGY	HEQLT	IHKD	HESVF	TVSLW	360
361	FRVKIR	GIDI	PVLPRN	TDLT	VFVEAN	IQHG	QQVLC	QRRTS	PKPFT	EEVLW	NWLEF	420
421	KDLPK	GALLN	LQIYCG	KAPA	LSSKAS	AESE	SSESKG	KVQL	LYYVN	LLLLID	HRFLLR	480
481	VLHMVQ	ISGK	GEDQGS	FNAD	KLTSAT	NPK	ENSMSI	SILL	DNYCH	PIALP	KHQPT	540
541	DRVRAE	MPNQ	LRKQLE	AI	TDPLN	PLTAE	DKELL	WHFRY	ESLKH	PKAYP	KLFSSV	600
600	QEI	VAKTY	QL	LARREV	WDQS	ALDVGL	TMQ	LDCN	FSDENV	RAIAV	QKLES	660
661	LQLVQ	AVKFE	PYHDS	SALARF	LLKRG	LRNKR	IGHFL	FWFLR	SEIAQ	SRHYQ	QRFVIL	720
721	LRGCGT	TAM	LH	DFTQQV	QVIE	MLQKV	TLDIK	SLSAE	KYDVS	SQVIS	QLKQK	780
781	ESFRVP	YDPG	LKAGAL	AIEK	CKVMAS	KKKP	LWLEF	KCADP	TALSNE	TIGI	IFKHGD	840
841	DMLIL	QILRI	MESI	WETESL	DLCLLP	YGCI	STGDKI	GMIE	IVKD	ATTIAK	IQOSTV	900
901	AFKDE	VLNHW	LKEKSP	TTEK	FQAAV	ERFVY	SCAGY	CVATF	VLGIG	DRHND	NIMITET	960
961	FHIDF	GHILG	NYKS	F	LGINK	ERVFP	VLT	PD	FLFVM	GTSGK	KTSPHF	1020
1021	RHHTN	LLIIL	F	SML	MTGMP	QLTSK	EDIEY	IRDAL	TVGKN	EEDAK	KYFLD	1080
1081	TVQFN	WFLHL	LGIK	QGEK	SA							1140

blue: PIK3CG sequence expressed in recombinant protein

¹NCBI/Protein accession number NP_002640.2

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