

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: 004

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 004, was confirmed as PIK3CG by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 132,406 Da

Expression host: Sf9 insect cells

Purification: Immobilized Metal Affinity Chromatography

Activation: his 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 10 µl are not advisable. Avoid repeated freeze-thaw cycles!

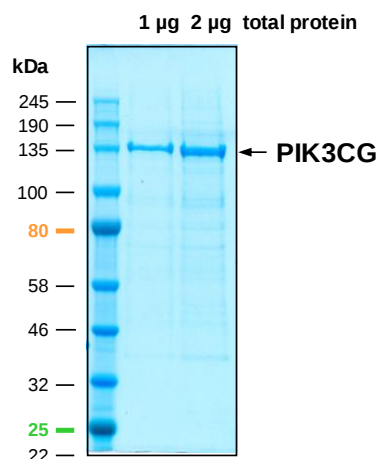
Protein concentration: 0.500 µg/µl

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

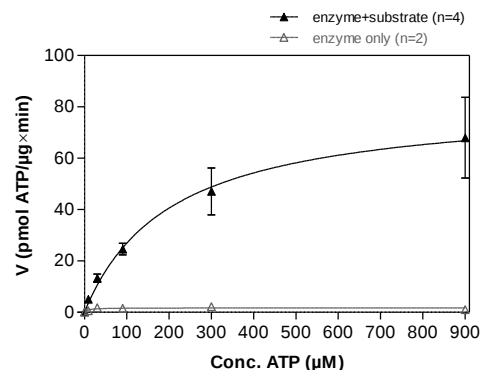
Biochemical Parameters:

Specific kinase activity (P_i transfer): 82 pmol/µg × min
ATP-K_M: 203 µM

PIK3CG Lot 004: Coomassie stain



PIK3CG Lot 004: Determination of V_{max} and K_M value for ATP



• Assay conditions:

60 mM HEPES-NaOH, pH 7.5

3 mM MgCl₂

3 µM Na-orthovanadate

1.2 mM DTT

50 µg/ml PEG_{20,000}

ATP (variable)

Substrate: PIP₂: 5 µM / PS: 95 µM

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

PS: 1-Palmitoyl-2-Oleoyl-sn-Glycerol-3-(Phospho-L-Serine))

Kinase: 4 µg/ml

• Assay technology: ADP-Glo (Promega)

PIK3CG

Product No.: 1163-0000-1

HIS-PIK3CG Recombinant Fusion Protein Amino Acid Sequence														
1	MSPIDPMG	HHH	HHHH	GRRRAS	VAAGI	LVPRG	SPGLDGIYAR	TENLYFQ	GAM	GARGRMELEN	60			
61	YKQPVVLR	ED	NCRRRRR	RMKP	RSAAASL	SSM	ELIPIEFVLP	TSQRKCKS	PE	TALLHVAGHG	120			
121	NVEQMK	QVW	LRALET	SVAA	DFYHRL	GPHH	FLLLYQKKGQ	WYEIYDKYQV		VQTLDC	LRYW	180		
181	KATHRSP	QI	HLVQRH	PPSE	ESQAFQ	RQLT	ALIGYDVTDV	SNVHDELEF		TRRGLV	TPRM	240		
241	AEVASR	DPKL	YAMHPW	VTSK	PLPEYL	LWKKI	ANNCIFIVIH	RSTTSQTIKV		SPDDTP	GAIL	300		
301	QSFFT	KMAKK	KSLMDI	PESQ	SEQDFV	LRVC	GRDEYL	VGET	PIKNFQ	WVRH	CLKNQEEIHV	360		
361	VLDTPP	D	DEVRKEE	WPL	VDDCTG	VTGY	HEQLTI	HGKD	HESVFT	VS	DCDRKFRVKI	420		
421	RGIDIP	VLP	NTDLT	VFVEA	NIQHQQ	VLC	QRTSPK	PFT	EEVLWN	VWLE	FSIKIKDLPK	480		
481	GALLNL	QIYC	GKAPAL	SSKA	SAESPSE	SESK	GKVQLLYVN	LLLIDHR	FLL	RRGEYV	LHMW	540		
541	QISGKG	EDQG	SFNADK	L	TSATNP	DK	ISILLD	NYCH	PIALPK	HQPT	PDPEGDRVRA	600		
600	EMP	NQLRK	Q	EAI	IATD	PLN	PLTAED	KELL	WHFRY	ESLKH	PKAYPKLFSS	VKWQQEIVA	660	
661	ATYQ	LLAR	E	W	Q	SAL	DV	L	TMQLLD	CNF	SDENVR	IAV	720	
721	AVKFEPYHDS		ALARFLLKRG		LRNKRIGHFL		FWFLRSEIAQ		SRHYQQRFAV		ILEAYLRGCG		780	
781	TAM	LH	DFTQ	Q	VQVI	EM	LQKV	TLDIK	SLSAE	KYDVSSQVIS	QLKQKLENLQ	NSQLPESFRV	840	
841	PYDP	GLKAGA		LAIEKCKVMA		SKKKPLWLEF		KCADPTALSN		ETIGIIFKHG	DDL	RQDMLIL	900	
901	QILR	IMESI	W	ETESLD	LCLL	PYGCISTGDK		IGMIEIVKDA		TTIAKIQQST	VGNTGAFKDE		960	
961	VLNH	WLKEKS		PTEEFQAAV		ERFVYSCAGY		CVATFVLGIG		DRHNDNIMIT	ETGNL	FHIDF	1020	
1021	GHIL	GNYSF		LGINKERV	PF	VLT	PDFL	FVM	GTSGKKTSPH		FQKFQD	ICVK	AYLALRHHTN	1080
1081	LLIIL	F	SMML	QTGMP	QLTSK	EDIEY	IRDAL	TVGKNEEDAK		KYFLDQIEVC	RDKG	WT	VQFN	1140
1141	WFLHL	V	LG	IK	QGEK	HS								1200

Red:

HIS6-tag

Pink:

Thrombin cleavage site

Green:

TEV cleavage site

blue:

PIK3CG

Red: HIS6-tag Pink: Thrombin cleavage site Green: TEV cleavage site blue: PIK3CG

Kinase wt ¹ Amino Acid Sequence											
1	MELENYKQPV	VLREDN	NCRRR	RRMKPR	SAAA	SLSSMELIPI	EFVLPTSQRK	CKSPETALLH			60
61	VAGHGNVEQM	KAQV	WLRAL	TSVAAD	FYHR	LGP	HHFLLLY	QKKGQWYEIY	DKYQV	VQ	120
121	CLRYWKATHR	SPGQI	HLVQR	HPPSEESQAF	QRQLTALIGY	DVTDV	SNVHD	DELEFTRRGL			180
181	VTPRMAEVAS	RDPKLY	AMHP	WVTSKPLPEY	LWKKIANNCI	FIVIH	RSTTS	QTIKVSPDDT			240
241	PGAILQSFFT	KMAKK	SLMD	IPESQSEQDF	VLRVCGRDEY	LVGET	PIKNF	QWVRHCLKNG			300
301	EEIHV	VLDTP	PDPAL	DEVK	EEWPL	VDDCT	GVTGYHEQLT	IHGKD	HESVF	TVSLWDC	360
361	FRVKIRGIDI	PVLPR	NTDLT	VFVEANI	QHG	QQVLC	QRRTS	PKPFTEEVLW	NVWLEFSIKI		420
421	KDLPGKALLN	LQIYCG	KAPA	LSSKASAESP	SSESKGKVQL	LYYVNL	LLID	HRFLLRRGEY			480
481	VLHMQISGK	GEDQGS	FNAD	KLTSATNPDK	ENSMSISILL	DNYCH	PIALP	KHQPTDPEG			540
541	DRVRAEMP	NQ	LRKQLEAIIA	TDPLNPLTAE	DKELLWHFRY	ESLKH	PKAYP	KLFSSV	KWGQ		600
600	QEIVAKTYQI	LARREV	WDQS	ALDVGL	TMQL	LDCNFS	DENV	RAIAVQKLES	LEDDDV	LHYL	660
661	LQLVQAVKFE	PYHDS	SALARE	LLKRGL	RNKR	IGHFL	FWFLR	SEIAQSRHYQ	QRF	AVILEAY	720
721	LRGCGTAM	LH	DFTQ	QVQVIE	MLQKV	TLDIK	SLSAEKYDVS	SQVISQLKQK	LENLQ	NSQLP	780
781	ESFRVPYDPG	LKAGALAIEK	CKVMASKKKP	LWLEFK	CADP	TALSNETIGI	IFKHGDDLRQ				840
841	AMLILQILRI	MEKI	WTESE	FLCLLPYGC	I	STGDKIGMIE	IVKDATTI	IQOSTVGTG			900
901	DFKDEVLNHW	L	SEKSPTEEK	FQAAVER	FCV	SCAGYCVATF	VLGIGDRHND	NIMIT	TGNL		960
961	FHIDFGHILG	NYKS	FLGINK	ERV	PFVLT	PD	FLFVMG	TS	SGK	KTS	1020
1021	RHHTNLLIIL	F	SMML	MTGMP	QLTSK	EDIEY	IRDAL	TVGKNE	DAK	KYFLDQIEVC	1080
1081	TVQFNWFLHL	V	LG	IK	QGEK	HS					1140

blue: PIK3CG sequence expressed in recombinant protein

¹NCBI/Protein accession number NP_002640.2

This product was manufactured at ProQinase in Freiburg, Germany, and is for in vitro research use only, not for use in humans or animals. ProQinase disclaims any warranty explicitly or implied that the use of the product or parts of the product is free from third party intellectual property claims unless this is explicitly stated.