

# Molecular basis of PI3-kinase $\gamma$ regulation

## Molekulare Grundlagen der PI3-Kinase- $\gamma$ -Regulation

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## Abbreviations

aa	amino acid(s)
AMP	adenosine 5'-monophosphate
APS	ammoniumpersulfate
$\beta$ -ME	$\beta$ -mercaptoethanol
BSA	bovine serum albumin
Btk	Bruton's tyrosine kinase
bp	base pair(s)
$\beta$ AR	$\beta$ -adrenergic receptor
$\beta$ ARK	$\beta$ -adrenergic receptor kinase
$[Ca^{2+}]_i$	intracellular concentration of calcium ions
cAMP	adenosine 3',5'-cyclic monophosphate
<i>C. elegans</i>	<i>Caenorhabditis elegans</i>
CD	cluster of differentiation
CFP	cyan fluorescent protein, color variant of GFP
cLSM	confocal laser scanning microscope
CV	column volume(s)
DC	dendritic cell
DMEM	Dulbecco's modified Eagle medium
DNA-PK	DNA-dependent protein kinase
DNP	dinitrophenol
DTT	dithiothreitol
<i>E. coli</i>	<i>Escherichia coli</i>
EDTA	ethylenediaminetetraacetic acid
EGF	epidermal growth factor
ERK	extracellular signal-regulated kinase
EST	expressed sequence tag
FBS	foetal bovine serum
fMLP	formyl-methionyl-leucyl-phenylalanine

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FRET	fluorescence resonance energy transfer
GAP	GTPase-activating protein
GAPDH	glyceraldehyde 3-phosphate dehydrogenase
GEF	guanine nucleotide exchange factor
GFP	green fluorescent protein
GPCR	G protein-coupled receptor
GRK	G protein-coupled receptor kinase
Grp1	general receptor for phosphoinositides 1
GSK-3	glycogen synthase kinase 3
GTPase	GTP hydrolase
HEK	human embryonic kidney
HEPES	2-[4-(2-hydroxyethyl)-1-piperazinyl]-ethanesulfonic acid
HM	hydrophobic motif
HRP	horseradish peroxidase
IP	immunoprecipitation
MAPK	mitogen-activated protein kinase
MEM	minimal essential medium
mTOR	mammalian target of rapamycin
NLS	nuclear localization sequence(s)
NRTK	nonreceptor tyrosine kinase
PAGE	polyacrylamide gel electrophoresis
p87 <sup>PIKAP</sup>	PI3K $\gamma$ adapter protein of 87 kDa
PCR	polymerase chain reaction
PDK-1	3-phosphoinositide-dependent kinase 1
PDE	phosphodiesterase
PH domain	pleckstrin homology domain
PI	phosphatidylinositol
PI(3)P	phosphatidylinositol 3-phosphate
PI(3,4)P <sub>2</sub>	phosphatidylinositol 3,4-bisphosphate
PI(4)P	phosphatidylinositol 4-phosphate
PI(4,5)P <sub>2</sub>	phosphatidylinositol 4,5-bisphosphate
PIP <sub>3</sub>	phosphatidylinositol 3,4,5-trisphosphate
PI3K	phosphoinositide 3-kinase
PKA	protein kinase A

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PKC	protein kinase C
PLC	phospholipase C
PTEN	phosphatase and tensin homolog deleted on chromosome 10
PX domain	Phox domain
raptor	regulatory-associated protein of mTOR
RBD	Ras binding domain
riCTOR	rapamycin-insensitive companion of mTOR
RNAi	RNA interference
ROS	reactive oxygen species
rpm	revolutions per minute
RT	reverse transcription <i>or</i> reverse transcriptase
RTK	receptor tyrosine kinase
S6K	p70 ribosomal S6 kinase
SDS	sodium dodecyl sulfate
S.E.	standard error
Sf	<i>Spodoptera frugiperda</i>
SHIP	SH2-containing inositol 5-phosphatase
shRNA	short hairpin RNA
siRNA	short interfering RNA
SMART	simple modular architecture research tool
TEMED	N,N,N',N'-tetramethylethylenediamide
TEV	tobacco etch virus
Tris	Tris(hydroxymethyl-)aminomethan
TRPV	transient receptor potential subfamily V
TSC	tuberous sclerosis complex
VSMC	vascular smooth muscle cell(s)
YFP	yellow fluorescent protein, color variant of GFP

The amino acid three-letter code is used when referring to *e.g.* phosphorylation sites, whereas peptide sequences are given in the one-letter code.

