

## Supplementary Table 1

### Potential PKG substrates in *P. falciparum* schizonts

[R/K]xx[S/T]

GeneID	Gene product	Predicted phosphosite
PF3D7_0802600	adenylyl cyclase beta (ACbeta)	DHMRAQ <b>S</b> IDHVDK
PF3D7_0414900	armadillo-domain containing rhoptyr protein (ARO)	TIRKLL <b>S</b> FTSNDI
PF3D7_1212900	bromodomain protein, putative	GVKRSAS <b>S</b> NKFDDF
PF3D7_0217500	calcium-dependent protein kinase 1 (CDPK1)	KVRKLG <b>S</b> GAYGEV
PF3D7_0618000	conserved Plasmodium membrane protein, unknown function	RENRIY <b>S</b> MKTDDN
PF3D7_0618000	conserved Plasmodium membrane protein, unknown function	NYPKNI <b>S</b> QITIKT
PF3D7_0618000	conserved Plasmodium membrane protein, unknown function	SFEKIK <b>S</b> FVSNNT
PF3D7_0704300	conserved Plasmodium membrane protein, unknown function	TQKKVP <b>S</b> NSSFNI
PF3D7_1464500	conserved Plasmodium membrane protein, unknown function	IGRKNS <b>S</b> LNIQDV
PF3D7_1126700	conserved Plasmodium protein, unknown function	PIRKENS <b>S</b> LHISKYD
PF3D7_0210900	conserved Plasmodium protein, unknown function	FKGRTG <b>S</b> FGSRVF
PF3D7_0308300	conserved Plasmodium protein, unknown function	NNSKNS <b>S</b> HLYNEI
PF3D7_0407800	conserved Plasmodium protein, unknown function	QYHKFK <b>S</b> DLGLIY
PF3D7_0522400	conserved Plasmodium protein, unknown function	DEHKNI <b>S</b> FTHSDN
PF3D7_0611600	conserved Plasmodium protein, unknown function	EHFRQR <b>S</b> ITIMQD
PF3D7_1008100	conserved Plasmodium protein, unknown function	FLSKHNS <b>S</b> ENLNLI
PF3D7_1029400	conserved Plasmodium protein, unknown function	KNKKNV <b>S</b> FEEKLY
PF3D7_1142100	conserved Plasmodium protein, unknown function	DNEKAT <b>S</b> DLSSIH
PF3D7_1327300	conserved Plasmodium protein, unknown function	LEKKIP <b>S</b> IEDSQK
PF3D7_1346400	conserved Plasmodium protein, unknown function	IYIRGV <b>S</b> NKSEVT
PF3D7_1304200.1	CorA-like Mg2 transporter protein, putative	LSRKENS <b>S</b> INSSTL
PF3D7_1251200	coronin	EHLKHI <b>S</b> SIHEEN
PF3D7_0623100	coronin binding protein, putative	SKNRV <b>S</b> SAHNKKG
PF3D7_1434500	dynein-related AAA-type ATPase, putative	VFERNK <b>S</b> DNFNIS
PF3D7_0515700	glideosome-associated protein 40, putative (GAP40)	EHSRAA <b>T</b> FKSKSK
PF3D7_0515700	glideosome-associated protein 40, putative (GAP40)	KLSRNY <b>S</b> SKQHEM
PF3D7_0624000	hexokinase (HK)	TYTKLD <b>T</b> IECDIP
PF3D7_1105100	histone H2B (H2B)	KAKKTG <b>T</b> GPDGKK
PF3D7_0316700	HVA22/TB2/DP1 family protein, putative	SLKRIS <b>S</b> NVFG EK
PF3D7_1347200	nucleoside transporter 1 (NT1)	STGKES <b>S</b> KAYADI
PF3D7_0824400	nucleoside transporter 2 (NT2)	SLTKND <b>S</b> NSVGIK
PF3D7_0824400	nucleoside transporter 2 (NT2)	NENKTL <b>S</b> LTHSKK
PF3D7_0424600	Plasmodium exported protein (PHISTb), unknown function	NENRLN <b>T</b> IGNLFE
PF3D7_0730900	Plasmodium exported protein, unknown function	KVEKEM <b>S</b> IHDGMK
PF3D7_1360900	polyadenylate-binding protein, putative	VLLKSS <b>S</b> NETNKR
PF3D7_1340900	sodium-dependent phosphate transporter (PiT)	GTQKTG <b>S</b> VEAHHV

PF3D7_0730300	transcription factor with AP2 domain(s) (AP2-L)	ELKRNSSDGQNKH
PF3D7_1129900	transporter, putative	ISKREMSNDNVN
PF3D7_1021700	conserved Plasmodium membrane protein, unknown function	KIKRKLSDFIPTK
PF3D7_1308000	conserved Plasmodium membrane protein, unknown function	CGLKKVSFGEFNE
PF3D7_1464500	conserved Plasmodium membrane protein, unknown function	NIGRKNSSLNIQD
PF3D7_0407800	conserved Plasmodium protein, unknown function	TNYKRETELYDKI
PF3D7_1029400	conserved Plasmodium protein, unknown function	FLRRKRSFIFNDY
PF3D7_0709700	lysophospholipase, putative	KISRKSSTGSSSS
PF3D7_1342600	myosin A (MyoA)	KIVRRVSNVEAFD
PF3D7_0506900	rhomboid protease ROM4 (ROM4)	NNEKKE SFSINGD

**[R/K]xx[S/T][Φ]**

<b>GeneID</b>	<b>Gene product</b>	<b>Predicted phosphosite</b>
PF3D7_0802600	adenylyl cyclase beta (ACbeta)	DHMRAQSIDHVDK
PF3D7_0414900	armadillo-domain containing rhoptry protein (ARO)	TIRKLLSFTSNDI
PF3D7_0618000	conserved Plasmodium membrane protein, unknown function	SFEKIKSFVSNNT
PF3D7_1464500	conserved Plasmodium membrane protein, unknown function	IGRKNSSLNIQDV
PF3D7_1126700	conserved Plasmodium protein, unknown function	PIRKENSLHISKYD
PF3D7_0210900	conserved Plasmodium protein, unknown function	FKGRTGSFSGSRVF
PF3D7_0522400	conserved Plasmodium protein, unknown function	DEHKNISFTHSDN
PF3D7_0611600	conserved Plasmodium protein, unknown function	EHRQR SITIMQD
PF3D7_1029400	conserved Plasmodium protein, unknown function	KNKKNVSFEELY
PF3D7_1327300	conserved Plasmodium protein, unknown function	LEKKIPSIEDSQK
PF3D7_1304200.1	CorA-like Mg <sup>2</sup> transporter protein, putative	LSRKENSINSSTL
PF3D7_0515700	glideosome-associated protein 40, putative (GAP40)	EHSRAATFKSKSK
PF3D7_0624000	hexokinase (HK)	TYTKLDTIECDIP
PF3D7_0824400	nucleoside transporter 2 (NT2)	NENKTL SLTHSKK
PF3D7_0424600	Plasmodium exported protein (PHISTb), unknown function	NENRLNTIGNLFE
PF3D7_0730900	transcription factor with AP2 domain(s) (AP2-L)	ELKRNSSDGQNKH
PF3D7_1340900	sodium-dependent phosphate transporter (PiT)	GTQKTGSVEAHHV
PF3D7_1308000	conserved Plasmodium membrane protein, unknown function	CGLKKVSFGEFNE
PF3D7_1029400	conserved Plasmodium protein, unknown function	FLRRKRSFIFNDY
PF3D7_0506900	rhomboid protease ROM4 (ROM4)	NNEKKE SFSINGD

**[R/K][R/H/K]x[S/T]**

<b>GeneID</b>	<b>Gene product</b>	<b>Predicted phosphosite</b>
PF3D7_1008100	conserved Plasmodium protein, unknown function	FLSKHNSNENLNI
PF3D7_1251200	coronin	EHLKHISSIHEEN
PF3D7_1021700	conserved Plasmodium membrane protein, unknown function	KIKRKLSDFIPTK
PF3D7_1308000	conserved Plasmodium membrane protein, unknown function	CGLKKVSFGEFNE

PF3D7_1464500	conserved Plasmodium membrane protein, unknown function	NIGRKNSSLNIQD
PF3D7_0407800	conserved Plasmodium protein, unknown function	TNYKRETELYDKI
PF3D7_1029400	conserved Plasmodium protein, unknown function	FLRRKR SFIFNDY
PF3D7_0709700	lysophospholipase, putative	KISRKSSTGSSSS
PF3D7_1342600	myosin A (MyoA)	KIVRRVSNVEAFD
PF3D7_0506900	rhomboid protease ROM4 (ROM4)	NNEKKE SFSINGD

### Potential PKG phosphorylation sites in PfrPT1

[R/K]xx[S/T]

QPERFVTLGIDPP  
 GTGKTLTARAIAAN  
 ATNRPDTLDSALV  
 IRARRKTITEKDL  
 ARRKTI TEKDLLL  
 HGCKQFSATGKYM

### Potential PKG phosphorylation sites in PfHSP90

[R/K]xx[S/T]

EEKKKKTGEDKNA  
 RKKKIHTVEHEWE  
 SFYKSLTNDWEDH  
 LAVKHF SVEGQLE  
 ELLRFQTSKSGDE

### Potential PKG substrates in *P. berghei* ookinetes

[R/K]xx[S/T]	[R/K]xx[S/T][Φ]	[R/K]xx[T]	[R/K][R/H/K]x[S/T]
PBANKA_010080-851	PBANKA_020700-541	PBANKA_031210-523	PBANKA_010080-851
PBANKA_010220-826	PBANKA_020760-1004	PBANKA_041065-125	PBANKA_040110-1064
PBANKA_020700-541	PBANKA_021050-2220	PBANKA_041490-104	PBANKA_040170-347
PBANKA_020760-1004	PBANKA_021320-35	PBANKA_041490-21	PBANKA_041490-104
PBANKA_020880-717	PBANKA_030070-168	PBANKA_050830-547	PBANKA_050830-450
PBANKA_021050-2220	PBANKA_031210-523	PBANKA_052150-604	PBANKA_060080-140
PBANKA_021320-35	PBANKA_040820-11	PBANKA_060560-83	PBANKA_061740-376
PBANKA_030070-168	PBANKA_041065-125	PBANKA_060790-49	PBANKA_080160-797
PBANKA_030400-1	PBANKA_041490-104	PBANKA_060950-666	PBANKA_080410-1526
PBANKA_030450-1580	PBANKA_041490-21	PBANKA_070710-468	PBANKA_082360-72
PBANKA_031190-36	PBANKA_041730-1106	PBANKA_071500-771	PBANKA_090390-671
PBANKA_031210-523	PBANKA_050830-36	PBANKA_080320-479	PBANKA_090790-1732
PBANKA_040110-1064	PBANKA_051810-347	PBANKA_080630-1192	PBANKA_090940-450

**[R/K]xx[S/T]**

PBANKA\_040170-347  
PBANKA\_041065-125  
PBANKA\_041450-33  
PBANKA\_041490-104  
PBANKA\_041490-21  
PBANKA\_041730-1106  
PBANKA\_050830-36  
PBANKA\_050830-450  
PBANKA\_050830-547  
PBANKA\_051270-48  
PBANKA\_051600-68  
PBANKA\_051700-194  
PBANKA\_051810-183  
PBANKA\_051810-347  
PBANKA\_052150-604  
PBANKA\_052290-17  
PBANKA\_060080-140  
PBANKA\_060170-380  
PBANKA\_060560-83  
PBANKA\_060740-1391  
PBANKA\_060790-49  
PBANKA\_060950-666  
PBANKA\_060950-839  
PBANKA\_060960-86  
PBANKA\_061240-1054  
PBANKA\_061550-288  
PBANKA\_061580-780  
PBANKA\_061740-376  
PBANKA\_061890-116  
PBANKA\_070660-569  
PBANKA\_070710-468  
PBANKA\_071500-771  
PBANKA\_080160-797  
PBANKA\_080320-479  
PBANKA\_080410-1526  
PBANKA\_080630-1192  
PBANKA\_080630-924  
PBANKA\_080670-3342

**[R/K]xx[S/T]****[R/K]xx[S/T][Φ]**

PBANKA\_060170-380  
PBANKA\_070710-468  
PBANKA\_080160-797  
PBANKA\_080410-1526  
PBANKA\_080630-1192  
PBANKA\_080670-3342  
PBANKA\_081480-18  
PBANKA\_081700-19  
PBANKA\_081740-1347  
PBANKA\_081960-114  
PBANKA\_082360-72  
PBANKA\_082490-782  
PBANKA\_090790-2065  
PBANKA\_090790-859  
PBANKA\_090940-450  
PBANKA\_091860-956  
PBANKA\_092660-529  
PBANKA\_100540-1518  
PBANKA\_100790-16  
PBANKA\_102050-167  
PBANKA\_102310-1105  
PBANKA\_102960-129  
PBANKA\_103050-801  
PBANKA\_110440-490  
PBANKA\_110850-2373  
PBANKA\_111520-15  
PBANKA\_111530-407  
PBANKA\_112200-234  
PBANKA\_112680-8491  
PBANKA\_112840-224  
PBANKA\_113670-2072  
PBANKA\_114370-773  
PBANKA\_121660-337  
PBANKA\_121850-117  
PBANKA\_122840-183  
PBANKA\_123200-252  
PBANKA\_123200-362  
PBANKA\_123710-1219

**[R/K]xx[S/T][Φ]****[R/K]xx[T]**

PBANKA\_081480-18  
PBANKA\_090790-900  
PBANKA\_090980-542  
PBANKA\_093130-239  
PBANKA\_100790-174  
PBANKA\_102310-1201  
PBANKA\_102310-161  
PBANKA\_112520-749  
PBANKA\_121850-117  
PBANKA\_122380-740  
PBANKA\_123200-231  
PBANKA\_123200-329  
PBANKA\_123370-64  
PBANKA\_130680-1228  
PBANKA\_133470-385  
PBANKA\_133950-626  
PBANKA\_140200-1368  
PBANKA\_141680-549

**[R/K][R/H/K]x[S/T]**

PBANKA\_100540-1518  
PBANKA\_110850-2372  
PBANKA\_112520-749  
PBANKA\_112840-224  
PBANKA\_113670-2072  
PBANKA\_121590-1047  
PBANKA\_121660-337  
PBANKA\_122840-183  
PBANKA\_132320-790  
PBANKA\_132950-413  
PBANKA\_135570-19  
PBANKA\_140620-814  
PBANKA\_141680-353

**[R/K]xx[S/T]**

PBANKA\_081840-1454  
PBANKA\_081960-114  
PBANKA\_082360-72  
PBANKA\_082490-782  
PBANKA\_090390-671  
PBANKA\_090790-1079  
PBANKA\_090790-1142  
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PBANKA\_090790-859  
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PBANKA\_090940-450  
PBANKA\_090980-542  
PBANKA\_091860-491  
PBANKA\_091860-956  
PBANKA\_091970-233  
PBANKA\_091990-83  
PBANKA\_092250-545  
PBANKA\_092660-529  
PBANKA\_092720-298  
PBANKA\_092820-81  
PBANKA\_093130-239  
PBANKA\_100450-430  
PBANKA\_100540-1518  
PBANKA\_100550-183  
PBANKA\_100790-16  
PBANKA\_100790-174  
PBANKA\_100920-1425  
PBANKA\_102050-167  
PBANKA\_102310-1105  
PBANKA\_102310-1201  
PBANKA\_102310-161  
PBANKA\_102800-410  
PBANKA\_102960-129  
PBANKA\_103050-801  
PBANKA\_103380-5960  
PBANKA\_103400-175  
PBANKA\_103710-349  
PBANKA\_110440-490

**[R/K]xx[S/T][Φ]**

PBANKA\_133490-281  
PBANKA\_133490-703  
PBANKA\_133490-747  
PBANKA\_134250-1408  
PBANKA\_135470-255  
PBANKA\_136160-128  
PBANKA\_140620-814  
PBANKA\_141680-549  
PBANKA\_142690-173  
PBANKA\_145250-151  
PBANKA\_146050-462

**[R/K]xx[S/T]**

PBANKA\_110460-1115  
PBANKA\_110850-2372  
PBANKA\_110850-2373  
PBANKA\_111000-157  
PBANKA\_111520-15  
PBANKA\_111530-407  
PBANKA\_112200-234  
PBANKA\_112520-749  
PBANKA\_112650-15  
PBANKA\_112680-8491  
PBANKA\_112840-224  
PBANKA\_112890-46  
PBANKA\_113400-1048  
PBANKA\_113570-61  
PBANKA\_113590-1124  
PBANKA\_113670-2072  
PBANKA\_113780-999  
PBANKA\_114370-773  
PBANKA\_121300-2303  
PBANKA\_121470-688  
PBANKA\_121500-75  
PBANKA\_121590-1047  
PBANKA\_121660-337  
PBANKA\_121850-117  
PBANKA\_122240-137  
PBANKA\_122380-740  
PBANKA\_122510-200  
PBANKA\_122830-1068  
PBANKA\_122840-183  
PBANKA\_123200-231  
PBANKA\_123200-252  
PBANKA\_123200-329  
PBANKA\_123200-362  
PBANKA\_123370-64  
PBANKA\_123710-1219  
PBANKA\_130680-1228  
PBANKA\_130680-1521  
PBANKA\_131170-280  
PBANKA\_131610-449  
PBANKA\_131920-721

**[R/K]xx[S/T]**

PBANKA\_132320-790

PBANKA\_132790-15

PBANKA\_132950-413

PBANKA\_133470-385

PBANKA\_133490-281

PBANKA\_133490-703

PBANKA\_133490-747

PBANKA\_133540-1140

PBANKA\_133950-1002

PBANKA\_133950-626

PBANKA\_134250-1408

PBANKA\_134340-1101

PBANKA\_135470-255

PBANKA\_135570-19

PBANKA\_136160-128

PBANKA\_140200-1368

PBANKA\_140290-330

PBANKA\_140620-814

PBANKA\_141130-267

PBANKA\_141680-353

PBANKA\_141680-549

PBANKA\_142330-129

PBANKA\_142500-149

PBANKA\_142690-173

PBANKA\_142890-275

PBANKA\_142890-782

PBANKA\_143610-33

PBANKA\_145020-157

PBANKA\_145250-151

PBANKA\_146050-462