

Fig. S1

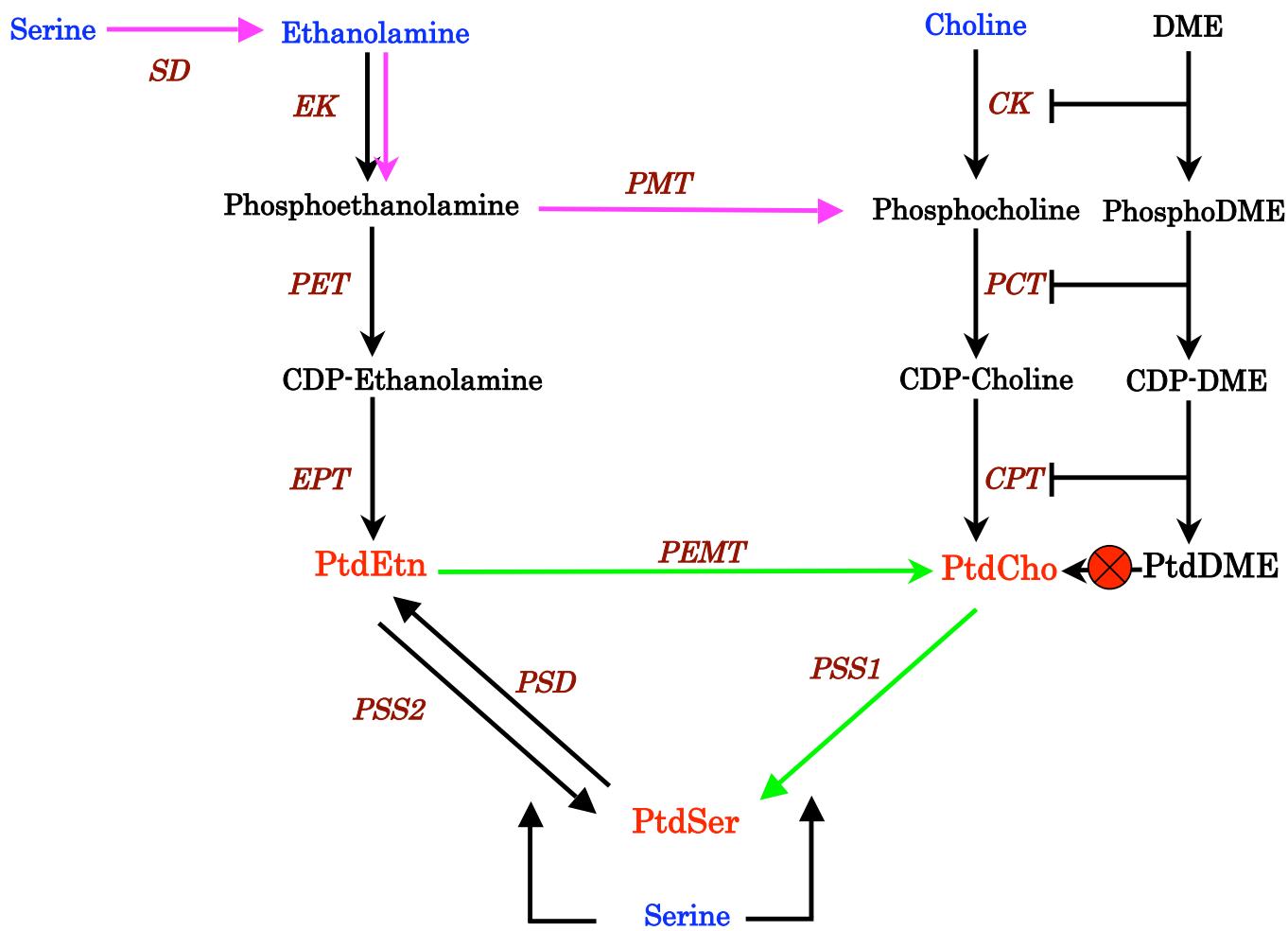


Fig. S2

A

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TgCK MQVLACVLGIVCLYLRTAPASPSGAGSLFLVASGAQTEPAVDDSAVQOGSTAETSVAPTHLRGSDGALRRTQTPQARPLAE
HsCK -----MKTKECTGGEAEPSPGLGLLSCGSGSAAP----APGVGQORDAASDLESKQLGGQPPALALPPPPPLPLPL
PfCK -----MESKICDPIGLDKNKFRKVEEENE--ENSKIVENGQMTYNDLDMFTTIQLNQEIDIRK-NPFPL
ScCK -MVQESRPGSVRSYVGVYQARSRSSSQRRHSLTRQRSQR-LIRTI SIESDVSNIIDDDDLRAVNEGAVGVQLDVSETAN
1.....10.....20.....30.....40.....50.....60.....70.....

TgCK MSAQOTEATAGAAAKDPSMPGHGDPHLNDVAKVQSFIGCCVKGWENLPSSLRVTVLSGGLSNRFLFAVDALPPPEART
HsCK PLPQP-----PPPQPPADEQPEPRTRRRAYLWCKEFLPGAWRGLREDEFHISVIRGGLSNMLFQCS-LPDTTATL
PfCK HMINQ-----KNDIPLCAQEFKSLTDPPLYIKKICLEKVHDWSRCNEDDVCVNOILSGLTNQLFEVSIKEDTAIEY
ScCK KGPRR-----ASATDVTDSLGSTSEYIEIIPFVKETLDASLPSDYLKQDILNLIQSLKISKWYNNKKTQPAQDM
81.....90.....100.....110.....120.....130.....140.....150.....

TgCK GSNPMG----HALEAPERSSSGKRHTHPCGNSRQEPPEAASNPSVTRDETQPPQRVLVRLYGHGQEHFFDAAEER
HsCK GDEPRK----VLLRLYG---AILQMRSCNKEGSEQAQKENEFGQAEAMVLES-----
PfCK RITRRH----VLFRIYG-----KVDALYNPLSEFE-----
ScCK NLVKISGAMTNAIFKVEYPKLPSLLLRITYGPNIDNIDREYELQ-----
161.....170.....180.....190.....200.....210.....220.....230.....

TgCK RVFKLLGDMGLAPKCLAEFPGGRVETWIV-GQALKRTELONEAVORQVVDLLADFHQITILPPSGSNYSADPAWCRWVQQL
HsCK VMFAILAEERSLGPKLYGIFPQGRLEQFIP-SRRLDTEELSLPDISAEIAEKMATFHGMKMP-----FNKEPKWL-----
PfCK -VYKTMKYRIAPLLNNTFDGGRIEEWLY-GDPLSIDDLKKNKSLVGIANVLGKFFHLSRKRHLPEHWDKTPCV-----
ScCK -LLARLSLKNIGPSLYGCFVNGHFEQFLENSKLTKDDIRNWNKSQRIARRMKELHVGVPLLSSERKNGSACWQKINQWL
241.....250.....260.....270.....280.....290.....300.....310.....

TgCK PQAQFSGHRTSEDCNSEQEDPFVRPRCDFAFCRLDAAWEDAKKGSASRLQVGTQIPPLHASISRGVSTDAAEANGVVTPEV
HsCK -----FGTMEKYLKEVLR-----
PfCK -----FKMMDRWRRLAVSN-----
ScCK R-----TIEKVDQWVGDPKNIENSLLEN-----
321.....330.....340.....350.....360.....370.....380.....390.....

TgCK TGPSSLLSPA EKRRHLDRVGLLQYYTEEAKKLEEVLLARVKYELDP-----ERVREYVGSPEAWRLLSGASIVF SHN
HsCK -----IKFTEESRIKKLHLKLLSYNLPLEL-----ENLRSILLES-----TPSPVVFCHN
PfCK -----YKNLDKVTL DINKYQESHKFLKF-----IKIYTOIEN-----IANDIVFCHN
ScCK -----WSKFMDIVDRYHKWLISQEQGIEQVNKLLIFCHNDAQYGNLLFTAPVMNTPSLYAPSSTSLTSQSSSLFPSS
401.....410.....420.....430.....440.....450.....460.....470.....

TgCK -DVOENNVMQHDDG-----VQIMIDFEYSGRNFRSYDMGNLFRFMTIDYADVQMYPPF SVHLTDYPSLPVRRRFFITHWL
HsCK -DCQEGNILLLEGRENSEKQKMLMIDFEYSYNYRGPDIIGNHFCEWMYDYS-YEKYPPFRANIRKVP TKKQQLHF FISSYL
PfCK -DLQENNIMNTN-----KCLR LIDFEYSGYNFLSADIANFIE TTI DYS-YNAYPPFI INKKNV I SYESRILFVTTYL
ScCK SNVIVDDIINPPKQEQSDSKLVVIDFEYAGANPAAYDLANHLSEWMYDYN--NAKAPHQCHADRYPDKEQVNLNFLYSYV
481.....490.....500.....510.....520.....530.....540.....550.....

TgCK NRLLTVYGSTSGVLAVIPRGITISKAMVDNFEVMVEFSGLISDLLWAFWSLAQMPDAEPS-----
HsCK PAFQNDFENLS-----TEEKSIKEEMLLEVNRFALASHFLWGLWSIVQAKIS--S-----
PfCK SKYLDLDDSTAAS-----DQD IIDQFLEAIEVQALGLHLI WAFWSIIRGYQTKSY-----
ScCK SHLRGGAKEP-----IDEEVQRLYKSI IQWRPTVOLFWSLWAILQSGKLEKKEASTAITREEIGPNKKYI IK
561.....570.....580.....590.....600.....610.....620.....630.....

TgCK -----DEF SHMOYVLSRLTL YELK KSEL IRRGLFPARK-----
HsCK -----IEFGYMDYQARFDAYFHQKRKLG V-----
PfCK -----NEFDFLYAKERLKM YDEQKQY LMSKNI IKDYDD-----
ScCK TEPESPEEDFVENDDEPEAGVSDTFDYMAVGRDKIAVFWGDLIGLGIITEECKNFSSFKFLDTSYL
641.....650.....660.....670.....680.....690.....700.....

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	TgCK	ScCK	PfCK
HsCK	19	14	23
PfCK	16	12	
ScCK	10		

Fig. S3

A

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TgEK MALHTACTPSPPLGGAASASRSSSEAANSAASLSAVSPRGSDWRQGGALHAPSGSVQTFLAYEVSRECRMTSKAERTSSSTPFSSASSPTH
HsEK -----MLCGRPRSSSDNRNFLRERAGLSSAAVQTRIG-----NSAASRRSPARPPVPAPPALPRGRPGT
PfeK -----MEYQLREIDESEKEIQQRKKNSVTKNFDN-----LSNSNSQITEMTNEQGVIPLREXDLTIN
ScEK -----MYTNYSLTSSDAMPRTYLVGTASPEMSKKRQ-----SANCDKPTRRVIHIIDTNEHSEVDLKNE
1.....10.....20.....30.....40.....50.....60.....70.....80.....

TgEK AGSPKAGEHCCAAENCRGVERRDLSPSSLPASRGEVSASRRELNGGEEESEVAANEEELAETLSKAKDIVARLAAARLGVEPDAKLLEAE
HsEK EGSTSLSAPAVLVVAVAVVVVVSAVAMANYIHVPPGSPEVPKLNVTVQDQEEHRCREGALSLLQHLRP-----HWDPQEVTLQ
PfeK VGDNRNLKVEEFMTNFISNVFENKNALFLYCKYVLLFYG-----KELLN-----ENNVESLNFE
ScEK LPITCTNEDGEMTSSSWTSQTANDFLKLLAYVNAKLDESLPSQYFKQDIINVLQSLEIPGWSVPGSKESSLN-----KNLLTLT
91.....100.....110.....120.....130.....140.....150.....160.....170.....

TgEK AVEGSTNRMVHVWSRRDEFKKSCAVKKFFKHTGKYICRDKELRLLRLLIGANDVGKEIFATEEGGGLIESNLAGSSLEPSDLHREAAK
HsEK LFTDGITNKLIGCYVGNTMEDVLVRIYGNKTELLVDRDEVKSFRVEAHGCAPOLYCTFNNG---LCYEFIQGEALDPKHVCNPAIF
PfeK IIKGITNILVKVEDNIHQNKYLRLYQPKTSEINRREKLISNILCDKNISKIYVFPNGRIEEFKDGYALSREDIKNKDFQ
ScEK QIKGALTNVIYKIHYPNLP--LMRIFGDSIDSVIDREYELKVIARLSFYDLGPKLEGFFENC---RFEKYIEGSRTSTQADFIDRDTS
181.....190.....200.....210.....220.....230.....240.....250.....260.....

TgEK --IASEMARMHAIDAKPQCLLVSPTSRDSRGEPAIGEALSPEATSDLWKHLFKFLKLCKEEQERRARGEDSEASSDGCEEPADSPKRTV
HsEK RLIARQLAKIHAIHANGWIPK-----SNLWLKMGKYFSLIPTGFA-----DEDIN---KRFL
PfeK KEIAENLRILHDIQLDDTIYKLQALQNIQGN-----RSFLWSTLWKYFNTLKERQ-----KKYSFNPKAYI
ScEK IKIAKKLKELLCTVPLTHKEITDQ-----PSCWTTFDQWIKLIDSHKEWVSNNVNISENLRCSSWNFFLKSFK
271.....280.....290.....300.....310.....320.....330.....340.....350.....

TgEK FSRRILLFDLRTVEERLRELHALASEVQSPVVLCHGDLLSGNIIKTDE-----GEVRFIDFDYSGFMERGFDIANHFAEYSGVE---
HsEK SD---IPSSQILQEEMT-WMKELISNLGSPVVLCHNDLLCKNIIYNEKQ-----GDVQFIDYESGYNLAYDIGNHFNEFAGVSD---
PfeK LK---LIDFDMLESIIT-EIQELCCKKNSPVVLCHCDLLSSNIIKTEG-----SSISFIDFEYSCPMERAYDIANHFNEYAGFN---
ScEK NYKRWLYNDSAFTSKLREDDKDSMINSGLKMVFCHNDLQHGNLLFKSKGKDDISVGDLIIDFEYAGPNVVFDLSNHLNEWQDYNDV
361.....370.....380.....390.....400.....410.....420.....430.....440.....

TgEK ---CDFSRCSEERDAFLRTYLRALRRQRERKAKAAAETQASAQPAQEDLEAEVAALRREINVFFPLSNILWLWALIQAVHVKPR
HsEK ---VDYSLYPDRELQSQWLRAYLEAYKEFKG-----FGTEVTEKEVELIFIQVNQFALASHFFWLWWALIQAKYSTI
PfeK ---CEWDLTNRSEEYHFIKHYLKTD-----DEQLINQLIDEIQPFYVCSHIVWLWALLQLHS-VI
ScEK QSFKSHIDKYEKEDILVEASYINHMNEN-----HVKIASQEVRILYNLIEWRPCQLFWLWWALLSGRLPQR
451.....460.....470.....480.....490.....500.....510.....520.....530.....

TgEK -----EMNYWRFAFDRLAAAVVPPVPHLSF-----
HsEK -----EFDFLGYAIVRFNQYFKMKPEVTALKVPE-----
PfeK -----DFDFINYGMTRLTAAESVKFRSKLEKN-----
ScEK PLIEGEKLMSEKAGLGDETHLMEHKNKENGKYDCSEDDSFNYLGFCKEKMSVFWGDLITLGVIDKDCPDIGKTDYLDTKLIF
541.....550.....560.....570.....580.....590.....600.....610.....620

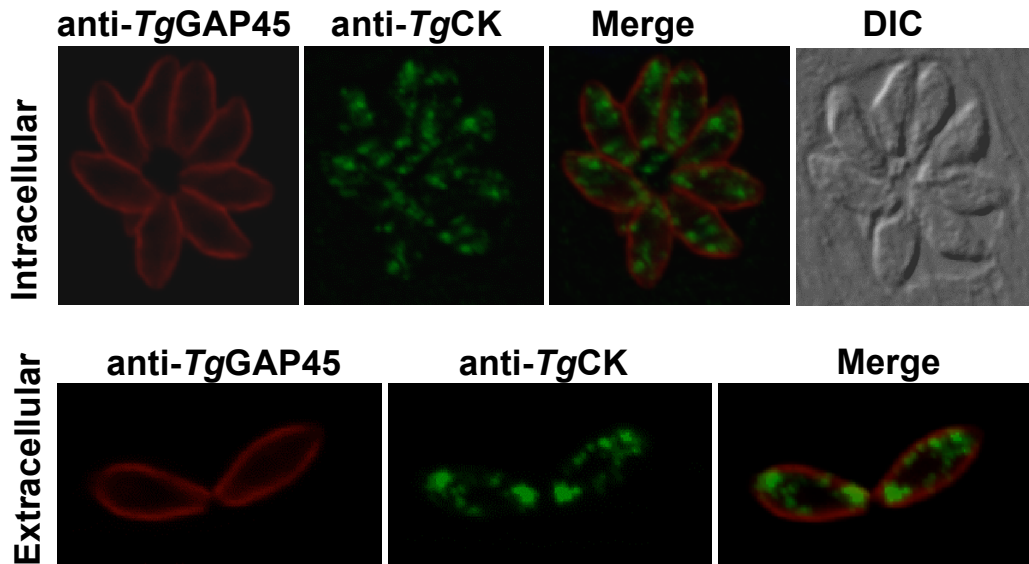
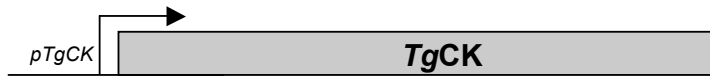
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B

	<i>TgEK</i>	<i>ScEK</i>	<i>PfEK</i>
<i>HsEK</i>	21	16	23
<i>PfEK</i>	20	15	
<i>ScEK</i>	14		

Fig. S4

A



B

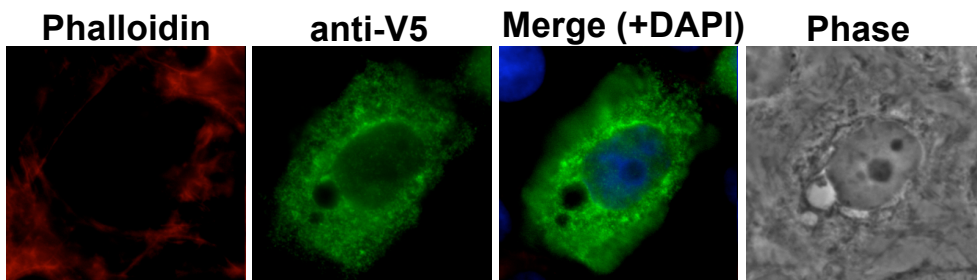
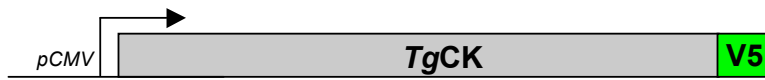


Fig. S5

