

Table S1: Cloning primers used in this study

Primer Name (restriction site)	Primer Sequence (restriction site underlined)	Cloning Vector (research objective)
Functional Expression of TgCK and TgEK in <i>E. coli</i>		
TgCK-F (<i>NdeI</i>) TgCK-R (<i>HindIII</i>)	CTC <u>CATATGCAGG</u> TA <u>CTCGCGTGTGT</u> CTC <u>AAGCTTCTTTCGAGCCGGGAAGAGT</u>	<i>pET22b⁺</i> (TgCK-6xHis in Rosetta strain)
TgCK-wo-HP-F (<i>NdeI</i>) TgCK-R (<i>BglII</i>)	CTCATCC <u>CATATG</u> TCCCTTCAGGCGCTGGCT CTC <u>AGATCTTCACTTTCGAGCCGGGAAGAGTCC</u>	<i>pET28b⁺</i> (6xHis-TgCK _s in Rosetta strain)
TgEK-F (<i>NcoI</i>) TgEK-R (<i>HindIII</i>)	CTCC <u>ATGGCCAGCAAGGCAGAGAGAAC</u> CTC <u>AAGCTTGAACGACAAATGCGGGACT</u>	<i>pET28b⁺</i> (TgEK-6xHis in Rosetta strain)
Functional Expression of ScCK1 and ScEK1 in <i>S. cerevisiae</i>		
ScCK1-F (<i>NotI</i>) ScCK1-R (<i>NotI</i>)	CTC <u>GCGGCCGCATGGTACAAGAATCACGTCCA</u> CTC <u>GCGGCCGCTTACAAATAACTAGTATCGAGGAACCTT</u>	<i>pESC-Ura</i> (ScCK1 in KS106 strain)
ScEK1-F (<i>SpeI</i>) ScEK1-R (<i>BglII</i>)	CTC <u>ACTAGTATGTACACCAATTATCACTTAC</u> CTC <u>AGATCTTTAAAAATAAGTTTAGTGTCTAAG</u>	<i>pESC-Ura</i> (ScEK1 in KS106 strain)
Subcellular Localization of TgCK and TgEK in <i>T. gondii</i>		
TgCK-Term-F (<i>HindIII</i>) TgCK-Term-R (<i>NheI</i>)	CTC <u>AAGCTTCTGGAATTTGGAGTCAACGC</u> CTCGCTAGCCAAGCAGAAGTCGGATATTAGCG	Step # 1 for expressing TgCK-HA under the <i>pTgCK</i> promoter in tachyzoites
TgCK-Prom-F (<i>ApaI</i>) TgCK-Prom-R (<i>HindIII</i>)	CTC <u>GGGCCCGGCAGGTGGTTTTGCTTC</u> CTACTG <u>AAGCTTGAATACTCTCGAAC</u>	Step # 2 for expressing TgCK-HA under the <i>pTgCK</i> promoter in tachyzoites
TgCK-ORF-F (<i>HindIII</i>) TgCK-ORF-HA-R (<i>HindIII</i>)	GTATTC <u>AAGCTT</u> CAGTAGCACCAAC CTC <u>AAGCTTTC</u> AAGCGTAATCTGGAACATCGTATGGGTA CTTTCGAGCCGGGAAGAG	Step # 3 for expressing TgCK-HA under the <i>pTgCK</i> promoter in tachyzoites
TgCK-Prom-HP-Ty1-F (<i>NheI</i>) TgCK-Prom-HP-Ty1-R (<i>ApaI</i>)	CTCTCTGCTAGCCTGGATAAATACCCGATGCTACAAATC CTCTCTGGGCCCATCGAGCGGGTCTGGTTCGTGTGGAC CTCAGCGCCTGAAGGGGACGC	Step # 1 for expressing TgCK-Ty1 under the <i>pTgCK</i> promoter in tachyzoites
TgCK-ORF-Term-F (<i>ApaI</i>) TgCK-ORF-Term-R (<i>ApaI</i>)	CTCTCTGGGCCCGGCTCTTTGTTTCTGGTGGC CTCTCTGGGCCCAAGCAGAAGTCGGATATTAGCG	Step # 2 for expressing TgCK-Ty1 under the <i>pTgCK</i> promoter in tachyzoites
TgCK _s -F (<i>SbfI</i>) TgCK _s -myc-R (<i>PacI</i>)	CTCATCCCTGCAGGCCCTTCAGGCGCTGGCT CTCATCTTAAATTAAGTAGAGGTCTTCTCGGAAATCAAC TTCTGTTCCTTTCGAGCCGGGAAGAGTCCA	<i>pTKO</i> (For expressing TgCK _s -myc in tachyzoites)
TgEK-F (<i>NcoI</i>) TgEK-HA-R (<i>PacI</i>)	CTCC <u>ATGGCCAGCAAGGCAGAGAGAAC</u> CTCTTAAATTAATCAAGCGTAATCTGGAACATCGTATGGG TAGAACGACAAATGCGGGACT	<i>pNTP3</i> (For expressing TgEK-HA in tachyzoites)
Promoter Displacement of TgCK in <i>T. gondii</i>		
TgCK-PD-5'UTR-F (<i>NdeI</i>) TgCK-PD-5'UTR-R (<i>NdeI</i>)	CTCATCC <u>CATATG</u> GGATGAAGTGTGTGGTCTG CTCATCC <u>CATATG</u> TGTAAGTCTAGGCGACTACACAGC	<i>pDT7S4</i> (promoter displacement of TgCK in the TaTi- <i>Aku80</i> strain)
TgCK-PD-3'UTR-F (<i>BglII</i>) TgCK-PD-3'UTR-R (<i>AvrII</i>)	CTCATC <u>AGATCT</u> ATGCAGGTA <u>CTCGCGTGTG</u> CTCATCC <u>CTAGGGAACGGGTACTCCATCAGGTAGT</u>	<i>pDT7S4</i> (promoter replacement of TgCK in the TaTi- <i>Aku80</i> strain)
TgCK-PD-5'Scr-F TgCK-PD-5'Scr-R (DHFR-R)	CATTCCGAGGCGGATAAA CGGGTTGAATGCAAGGTT	Screening for 5'-crossover in transgenic TaTi- <i>Aku80</i> strain
TgCK-PD-3'Scr-F (DHFR-F) TgCK-PD-3'Scr-R	CTCTCTTTTCGAGGGATCAG ACAACCTGTCTCTGCACCG	Screening for 3'-crossover in transgenic TaTi- <i>Aku80</i> strain
Conventional Knockout of TgCK in <i>T. gondii</i>		
TgCK-KO-5'UTR-F (<i>HindIII</i>) TgCK-KO-5'UTR-R (<i>NheI</i>)	CTC <u>AAGCTT</u> CGTAGGATAGAAGCGAGTCGTT CTCGCTAGCCGCTAGGAGGTTCAAATTTGC	<i>p2854</i> (conventional knockout of TgCK in the <i>HXGPRT</i> strain)
TgCK-KO-3'UTR-F (<i>NotI</i>) TgCK-KO-3'UTR-R (<i>NotI</i>)	CTCGCGGCCGCTCGGATAACACAGTGGAACTTGG CTCGCGGCCGCTCACACAAAGAGGGCCG	<i>p2854</i> (conventional knockout of TgCK in the <i>HXGPRT</i> strain)
TgCK-KO-5'Scr-F TgCK-KO-5'Scr-R	CCTCGTTTCTAGATAAAAGGCTGC ATGCAAGGTTTCGTGCTGTC	Screening of 5'-crossover in transgenic <i>HXGPRT</i> strain
TgCK-KO-3'Scr-F TgCK-KO-3'Scr-R	CGAATCCAGATGGAGATGGCTGTC AGAATGCGAGTGTCTGGCAA	Screening of 3'-crossover in transgenic <i>HXGPRT</i> strain

Quantitative PCR of <i>TgCK</i> transcript		
<i>TgCK</i> -Ex1-F <i>TgCK</i> -Ex1-R	CTTTGTTTCTGGTGGCCAGT CCCGATAAACGACTGCACTT	EST encoded by the exon 1 of full-length choline kinase
<i>TgCK</i> -Ex6-F <i>TgCK</i> -Ex6-R	TCTTCTCCGTCCACTTGACC GTCCACCATAGCCTTGGAAA	EST encoded by the exon 6 of full-length choline kinase
<i>TgElf1</i> α-F <i>TgElf1</i> α-R	AGTCGACCACTACCGGACAC CTCGGCCTTCAGTTTATCCA	Housekeeping gene for normalizing the expression of ESTs from choline kinase
GFP expression in <i>E. coli</i>		
<i>TgCK</i> -Ex1.1-F (<i>XcmI</i>) <i>TgCK</i> -Ex1.1-R (<i>NsiI</i>)	CTCCACCGGTCACCTGGATGCAGGTA CTGCGTGTGT CTCATGCATATCCCTAAAAGTTGAAACACGC	A fragment of exon 1 of choline kinase until the 3 rd ATG (1-729 bp)
<i>TgCK</i> -Ex1.2-F (<i>XcmI</i>) <i>TgCK</i> -Ex1.2-R (<i>NsiI</i>)	CTCCACCGGTCACCTGGATGCAGGTA CTGCGTGTGT CTCATGCATGGGGTTGCTGCCAGTGCG	A fragment of exon 1 of choline kinase until the 2 nd ATG (1-492 bp)
<i>TgGRA2</i> -F (<i>XcmI</i>) <i>TgGRA2</i> -R (<i>NsiI</i>)	CTCCACCGGTCACCTGGCGTCTCAGCTGCGCGAGG CTCATGCATCTTGCTTGATTCTTCAAAGAACACAG	A minimal promoter element of the dense granule 2 (Gra2) protein
GFP-F (<i>NsiI</i>) GFP-R (<i>PacI</i>)	CTCATGCATAAAGGAGAAGAACTTTTCACTGGA CTCTTAATTAATTATTGTATAGTTTCATCCATGCCA	ORF of the green fluorescent protein