

S1A

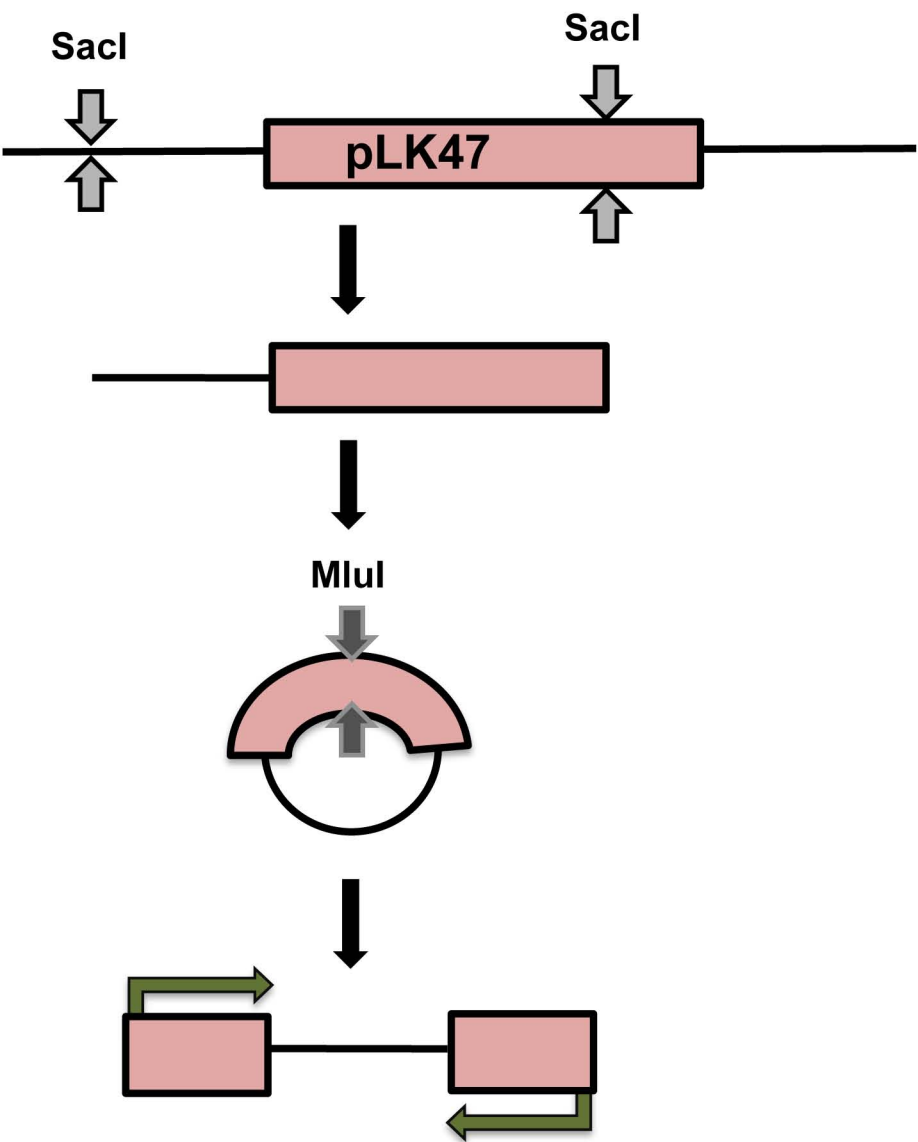


Figure S1. Insertional mutagenesis into *Adaptin-3 β* slows replication in the presence of both MP-IV-1 and QQ-437 but does not kill tachyzoites. A. Method for insertional mutagenesis probe and identifying the gene disrupted. The flanking region in the first line before the SAC1 site is proportional to that in the second line. We indicate where the SC1 sites are by a different symbol from the MluI sites. We use these symbols in all appropriate lines to indicate where the process takes place. This illustrates that the SC1 is cut, recircularized, then cut with MluI and then amplified to find the flanking region.

S1B

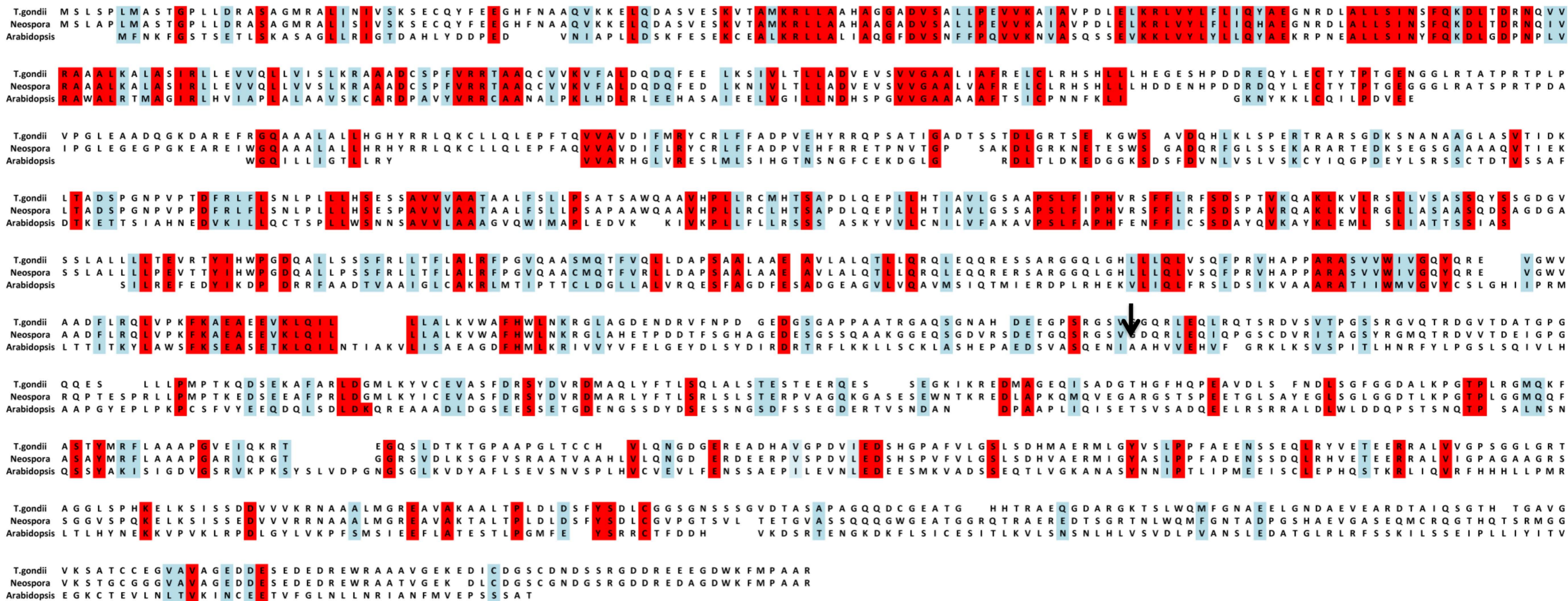


Figure S1. Insertional mutagenesis into Adaptin-3 β slows replication in the presence of both MP-IV-1 and QQ-437 but does not kill tachyzoites. B. Location of insertional mutation at bp 1320 in the *T.gondii* Adaptin 3 β . Alignment with *Neospora caninum* and *Arabidopsis thaliana* is shown.

S1C

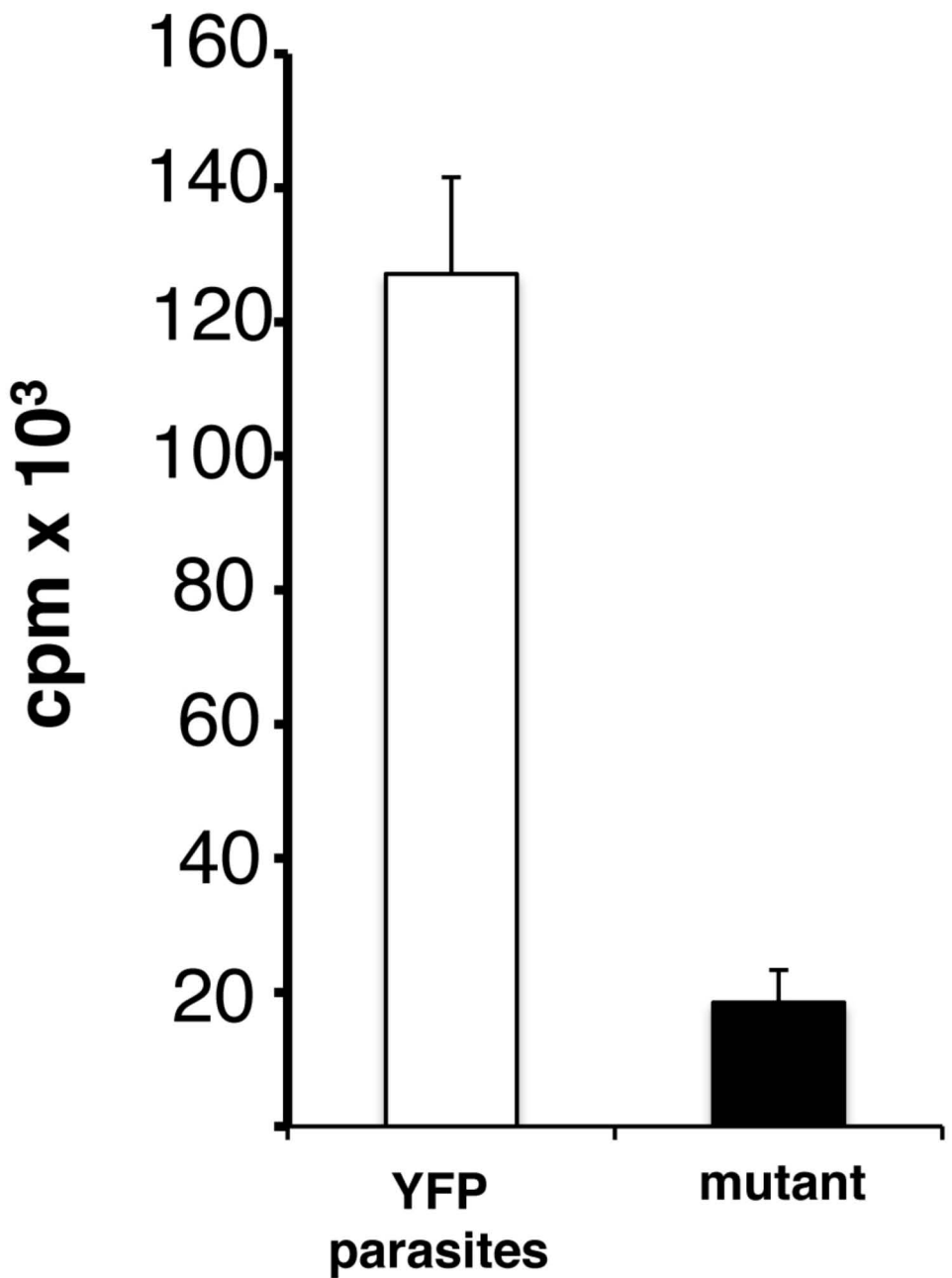


Figure S1. Insertional mutagenesis into Adaptin-3 β slows replication in the presence of both MP-IV-1 and QQ-437 but does not kill tachyzoites. C. These insertional mutants grow slowly in the presence of both MP-IV-1 and QQ-437 but do form plaques (data not shown). Mean numbers of parasites per vacuole (8-16 in wild type cultures and 1-2 in mutant cultures) and comparison of replication of parasites in cultures infected with comparable inocula of 2000 wild type or 2000 mutant parasites demonstrate that replication is substantially less in the mutant compared with the wild type parasites, measured as fluorescence as CPM uptake of tritiated uracil in image C.

S2A

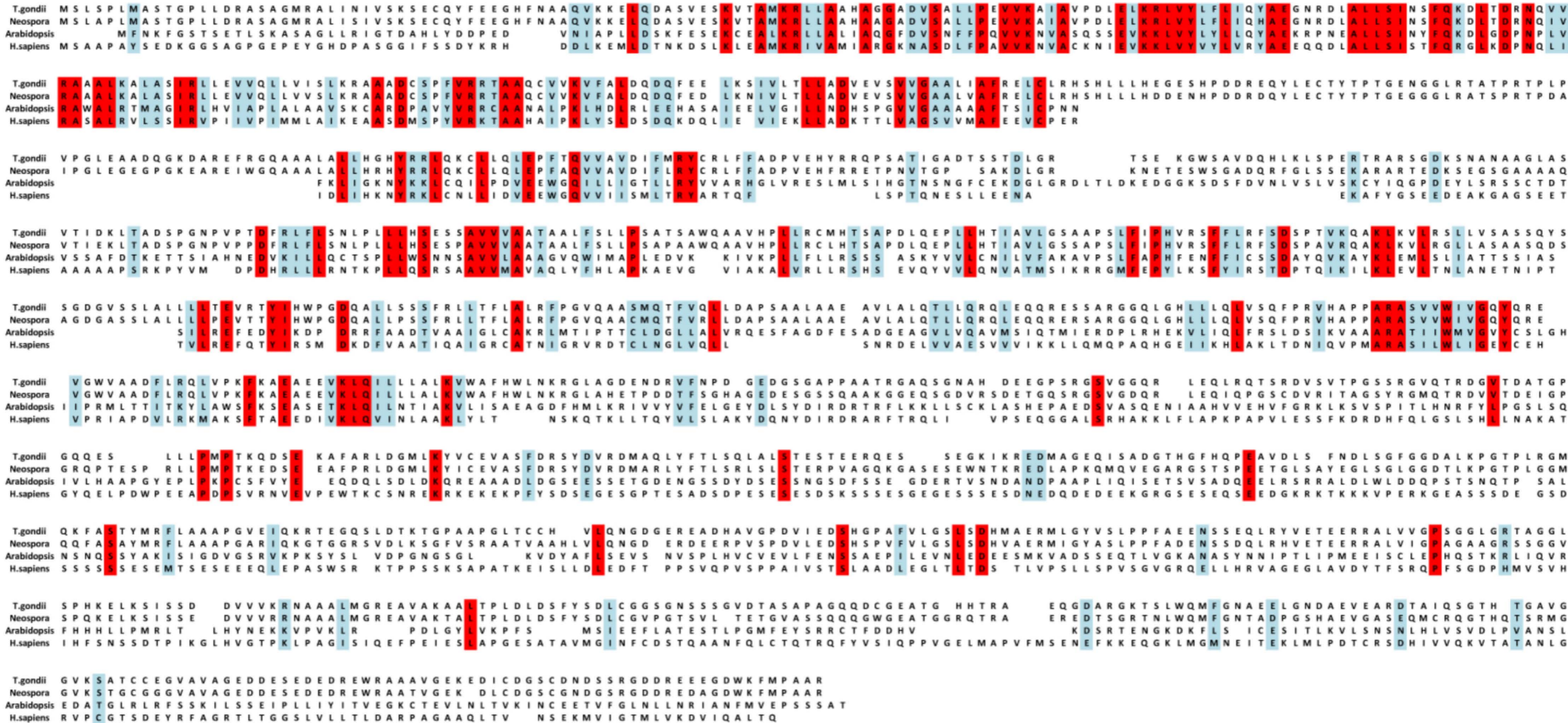


Figure S2. Multi-sequence Alignments of Adaptin-3β. Figure shows similarities and differences of *T.gondii* Adaptin-3β to that of *Neospora caninum*, *Arabidopsis*, *Homo sapiens*, *Plasmodium yoeli*, *Leishmania*, and *Trypanosomes* with separate alignments of different species together. **A.** *T. gondii*, *Neospora caninum*, *Arabidopsis* and *Homo sapiens*.

S2B

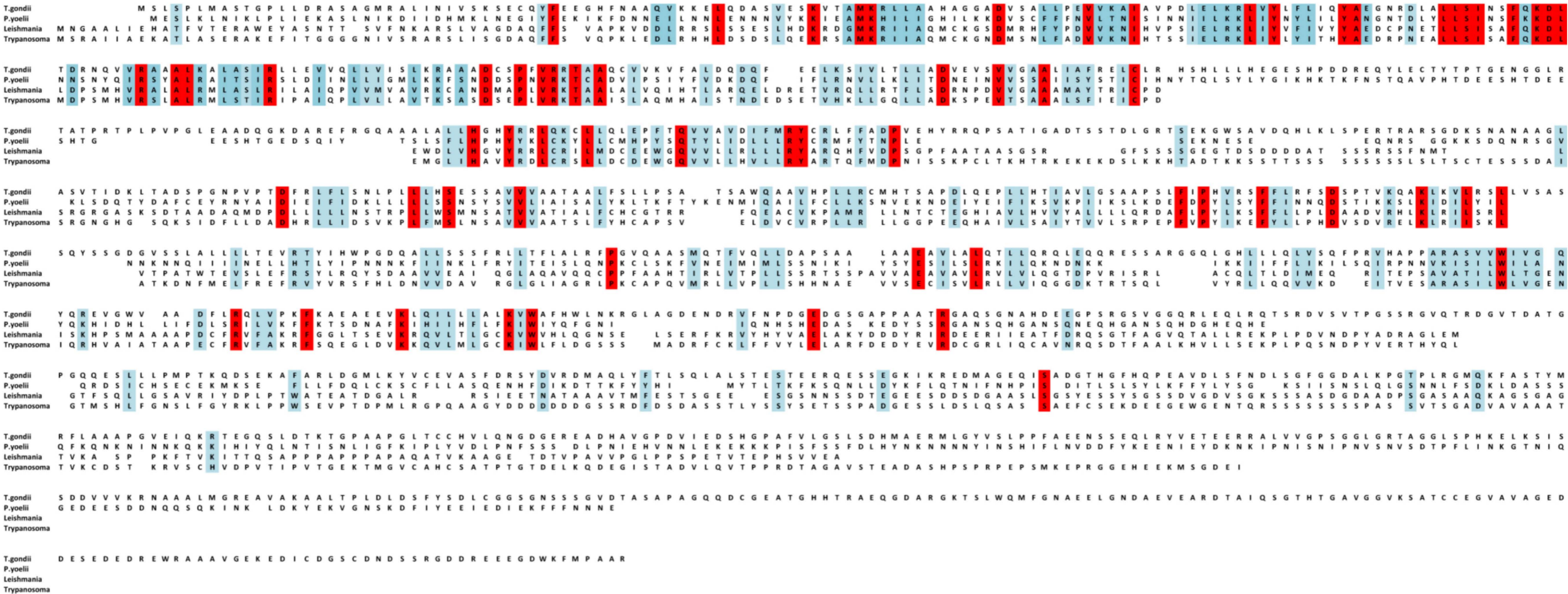


Figure S2. Multi-sequence Alignments of Adaptin-3β. Figure shows similarities and differences of *T.gondii* Adaptin-3β to that of *Neospora caninum*, *Arabidopsis*, *Homo sapiens*, *Plasmodium yoelii*, *Leishmania*, and *Trypanosoma* with separate alignments of different species together. **B.** *T. gondii*, *Plasmodium yoelii*, *Leishmania donovani*, *Trypanosoma cruzii*.

Supplemental References (SR)

SR1. Behnke MS, Wootton JC, Lehmann MM, Radke JB, Lucas O, Nawas J, Sibley LD, White MW. 2010. Coordinated progression through two subtranscriptomes underlies the tachyzoite cycle of *Toxoplasma gondii*. PLoS One. **25(8)**:e12354. PMID: 20865045

SR2. Behnke MS, Radke JB, Smith AT, Sullivan WJ Jr, White MW. 2008. The transcription of bradyzoite genes in *Toxoplasma gondii* is controlled by autonomous promoter elements. Mol Microbiol. J. **68**:1502-18. PMID: 18433450

SR3. Roberts CW, Roberts F, Henriquez FL, Akiyoshi D, Samuel BU, Richards TA, Milhous W, Kyle D, McIntosh L, Hill GC, Chaudhuri M, Tzipori S, McLeod R. 2004. Evidence for mitochondrial-derived alternative oxidase in the apicomplexan parasite *Cryptosporidium parvum*: a potential anti-microbial agent target. Int J Parasitol. **34**:297-308.

SR4. Hutson SL, Mui E, Kinsley K, Witola WH, Behnke MS, El Bissati K, Muench SP, Rohrman B, Liu SR, Wollmann R, Ogata Y, Sarkeshik A, Yates JR 3rd, McLeod R. 2010. *T. gondii* RP promoters & knockdown reveal molecular pathways associated with proliferation and cell-cycle arrest. PLoS One. **5**:e14057.

SR5. Larson ET, Parussini F, Huynh MH, Giebel JD, Kelley AM, Zhang L, Bogyo M, Merritt EA, Carruthers VB. 2009. *Toxoplasma gondii* cathepsin L is the primary target of the invasion-inhibitory compound morpholinurea-leucyl-homophenyl-vinyl sulfone phenyl. J Biol Chem. **284**:26839-50.

SR6. Nagamune K, Xiong L, Chini E, Sibley LD. 2008. Plants, endosymbionts and parasites: Abscisic acid and calcium signaling. Commun Integr Biol. **1**:62-5.

SR7. Nagamune K, Hicks LM, Fux B, Brossier F, Chini EN, Sibley LD. 2008. Abscisic acid controls calcium-dependent egress and development in *Toxoplasma gondii*. Nature. **7175**:207-10. PMID: 18185591

SR8. Ojo KK, Larson ET, Keyloun KR, Castaneda LJ, Derocher AE, Inampudi KK, Kim JE, Arakaki TL, Murphy RC, Zhang L, Napuli AJ, Maly DJ, Verlinde CL, Buckner FS, Parsons M, Hol WG, Merritt EA, Van Voorhis WC. 2010. *Toxoplasma gondii* calcium-dependent protein kinase 1 is a target for selective kinase inhibitors. Nat Struct Mol Biol. **5**:602-7.

SR9. Samuel BU, Hearn B, Mack D, Wender P, Rothbard J, Kirisits MJ, Mui E, Wernimont S, Roberts CW, Muench SP, Rice DW, Prigge ST, Law AB, McLeod R. 2003. Delivery of antimicrobials into parasites. Proc Natl Acad Sci U S A. **100**:14281-6.

SR10. Sullivan WJ Jr, Narasimhan J, Bhatti MM, Wek RC. 2004. Parasite-specific eIF2 (eukaryotic initiation factor-2) kinase required for stress-induced translation control. Biochem J. **380**:523-31. PMID: 14989696

S11. Vonlaufen N, Naguleswaran A, Coppens I, Sullivan WJ Jr. 2010. MYST family lysine acetyltransferase facilitates ataxia telangiectasia mutated (ATM) kinase-mediated DNA damage response in *Toxoplasma gondii*. J Biol Chem. **285**:11154-61.

S12. **Patent.** Rathore, D.; Jani, D.; Nagarkatti, R. 2007. Novel therapeutic target for protozoal diseases. US20070148185 (A1).