

Supplementary information

Figure 1. Morphological alterations after knock down of TbVTC1 as detected by optical microscopy

Drastic alterations in cell morphology were noted beginning four days after tetracycline induction (**A**) and by day 8 anucleate (**B**, left panel), multinucleate (**B**, center panel), or multiflagellate (**B**, right panel) parasites were observed. Scale bars: 5 μm .

Figure 2. Morphological alterations after knock down of TbVTC1 as detected by scanning electron microscopy

A-E, Scanning electron microscopy of wild-type procyclic stages (**A**) or procyclic forms 4 days after induction with tetracycline (**B-E**). Note cells with the flagella detached from the cell body (**B**, **D**) and large cells (**C**, and **E**) as compared with cells of normal size. Scale bars, **A**: 3 μm ; **B**: 8 μm ; **C-D**: 6 μm , **E**: 10 μm .

Figure 3. Effect of *TbVTC1* overexpression on procyclic forms growth

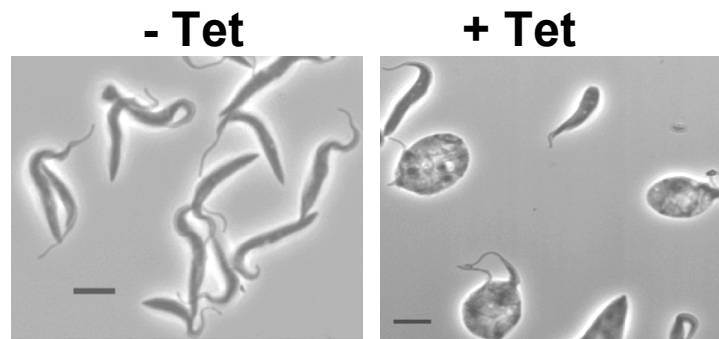
A, Western blot analysis showed that the overexpression of exogenous *TbVTC1* was efficiently induced 6 h after addition of tetracycline to procyclic forms transfected with a tetracycline-inducible *TbVTC1* expression construct. Each lane was loaded with 40 μg protein of the whole cell lysates. Note that the exposure time was shorter than that used in Fig. 3A, upper panel, to avoid overexposure of lanes 6-48 hr. The blot was sequentially probed with antibody against TbVTC1 (upper panel) and monoclonal antibody against α -tubulin as a loading control (lower panel), respectively. **B**, Cell growth was monitored in the presence (open squares) or absence (closed circles) of tetracycline.

Figure 4. Partial sequence alignment of multiple Vtc homologues, demonstrating a conserved motif

The positions of the first amino acid in the selected fragments are indicated. Identical residues are shaded in red and highly conserved residues are shaded in green.

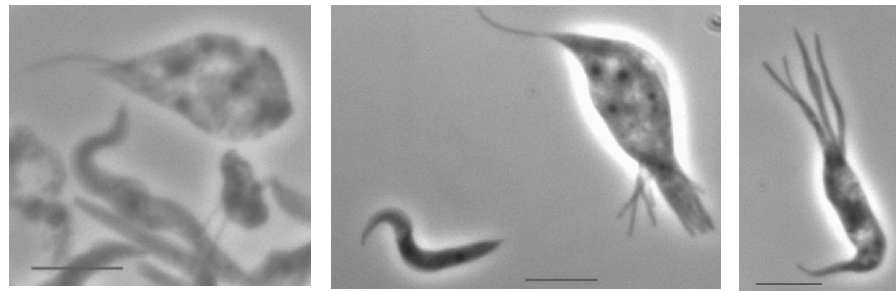
Suppl. Figure 1

A

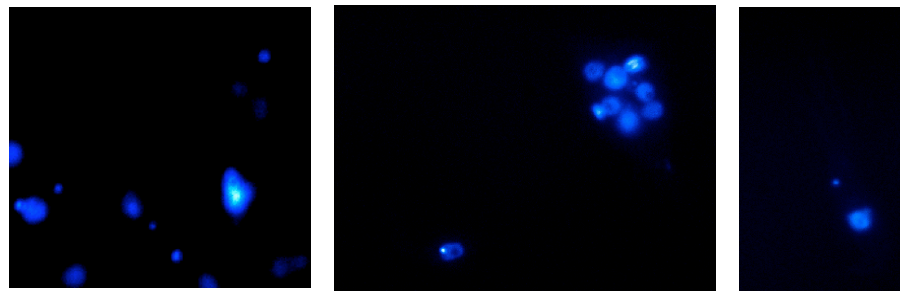


B

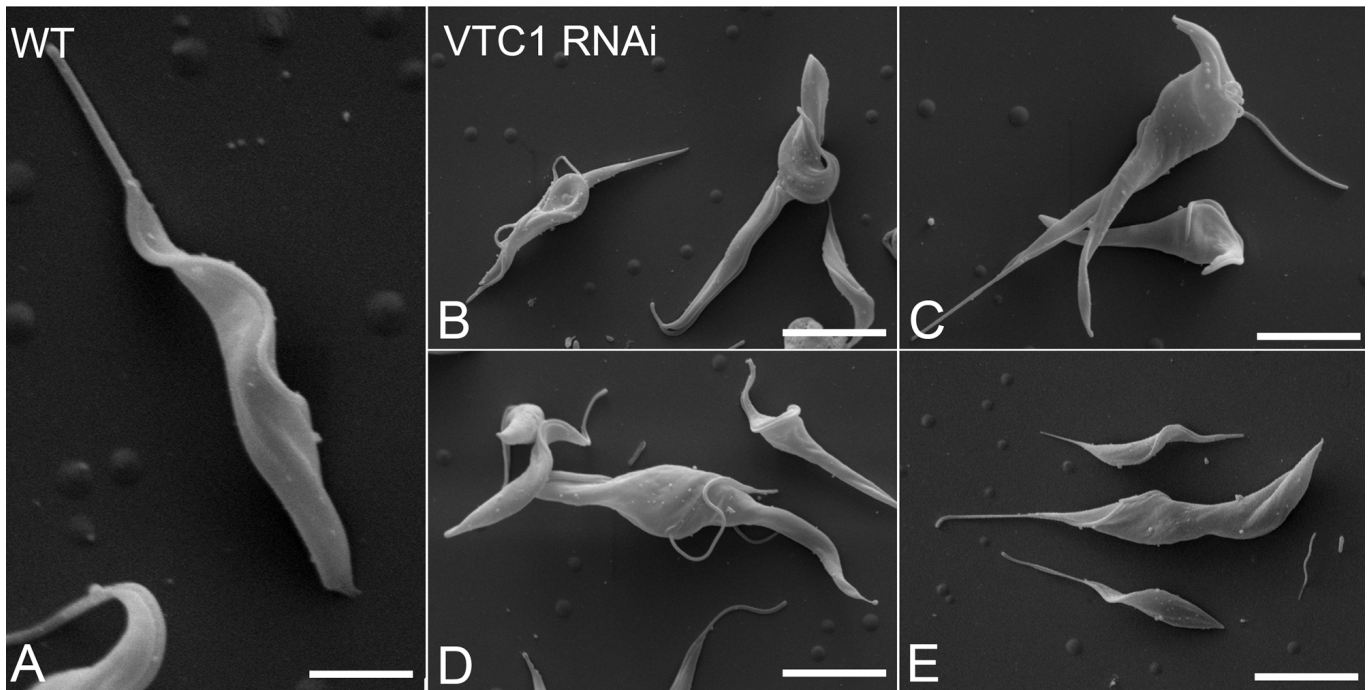
Phase



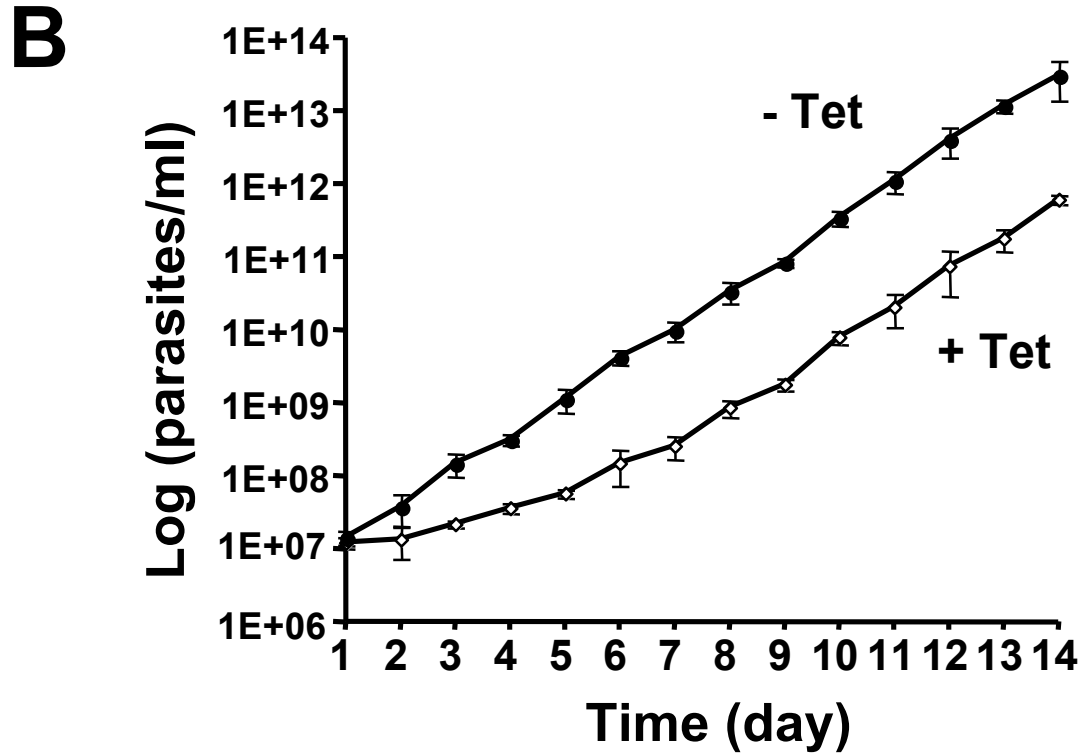
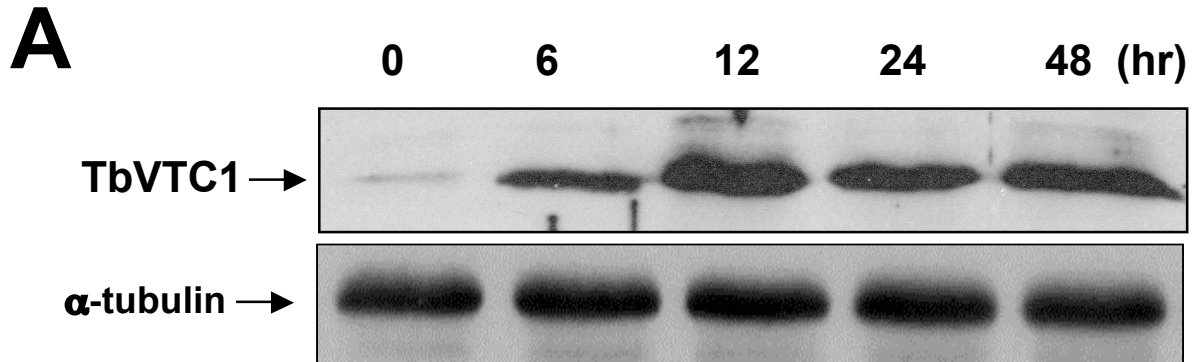
DAPI



Suppl. Figure 2



Suppl. Figure 3



Suppl. Figure 4

| VTC1 homologue | GI number | Position | Motif sequence |
|---------------------------------|-----------|----------|--|
| <i>S. cerevisiae</i> long 1 | 14318518 | 678 | -GPVNV EAKVWLANERTFN RWLSVTSLSVITFSTIYNSVK- |
| <i>S. cerevisiae</i> long 2 | 6325238 | 690 | -GPVKVEAKVWLANERTFN RWLSVTTLSVITFSTIYNSVQ- |
| <i>S. cerevisiae</i> long 3 | 30267875 | 614 | -VPVRVEPKVYEATERTYLSWLSISILGGVSTTLLTYGS- |
| <i>S. cerevisiae</i> short | 731476 | 17 | -LPTRVEPKVEFANERTF LSWLNFTVMGGIGVGLLNFGD- |
| <i>S. pombe</i> long 1 | 19115828 | 609 | -GPIKVEAKVWLANERTF LKWLHVVVLLGSAALYNSAG- |
| <i>S. pombe</i> long 2 | 19075642 | 614 | -VPVRVEPKTYEALERTYLDYLRYSILMGSIGITLFSFAK- |
| <i>S. pombe</i> short | 15214176 | 17 | -LPVRVEPKVEFANERTF LSWLSFAVVLGGISVGLLNFGD- |
| <i>C. albicans</i> long | 46436767 | 669 | -GPIKIEPKVWLANERTFN RWLHVTTLSSTTFIIYSSTS- |
| <i>E. cuniculi</i> long | 19074392 | 502 | -IPVRVEPKVEFANERTF LSWVQFAIFLGGIGSALLGLGD- |
| <i>C. hominis</i> long 1 | 54658378 | 880 | -SAVRVEPKTFEAFANERTLLQWMNMSVLLATTSVSLLSFGT- |
| <i>C. hominis</i> long 2 | 54655502 | 443 | -KINKLDPKSLFAAERVMLYWRKTIYISTFVILLISKTK- |
| <i>C. parvum</i> long | 46227232 | 880 | -SAVRVEPKTFEAFANERTLLQWMNMSVLLATTSVSLLSFGT- |
| <i>P. chabaudi</i> long | 56525338 | 779 | -SVVRVEPKTFEAFANERTLLQWLNTSVLLSTTSITLLNFSN- |
| <i>P. berghei</i> long | 56495910 | 784 | -SVVRVEPKTFEAFANERTLLQWLNTSVLLSTTSITLLNFSN- |
| <i>P. falciparum</i> long | 23508985 | 945 | -AVVRVEPKTFEAFANERTLLQWLNTSVLLSTTSITLLNFSN- |
| <i>T. gondii</i> long 1 | 37595440 | 106 | -PSVRVEPKTFEAFANERTLLQWMNTAVLLATTSITLLMNFNG- |
| <i>T. gondii</i> long 2 | 38231548 | 102 | -KMRKLDPKSEAFANERTFLQYLQKAVYLGSLATLLQWGG- |
| <i>L. major</i> long | 6165393 | 678 | -VPQKYDPKTLLTSERYMVKWMQLATSFGLLGIITSIIRFGK- |
| <i>L. major</i> short | 7532743 | 54 | -VPQKIDPKTFEAFANERTFLKWLISIVMTGLMSITLLNFGD- |
| <i>T. cruzi</i> long | 71659237 | 666 | -VPQKYDPKTLLTSERYMLKWT EHA TRGLVGLGVIQFGN- |
| <i>T. cruzi</i> short | 34558679 | 54 | -VPQKIDPKTFEAFANERTFLKWLISIVMTGLMSITLLNFGD- |
| <i>T. brucei</i> long (TbVTC4) | 74025436 | 659 | -VPQKYDPKTLLTSERFMVKWAEQATRVGVGLAVIRFGN- |
| <i>T. brucei</i> short (TbVTC1) | 62176594 | 55 | -VPQKIDPKTFEAFANERTFLKWMISIVMTGLMSITLLNFGD- |