

## **Abstract**

Two distinct genes encoding single domain, ATP-binding cassette transport protein homologues of *Theileria parva* were cloned and sequenced. Neither of the genes is tandemly duplicated. One gene, TpABC1, encodes a predicted protein of 593 amino acids with an N-terminal hydrophobic domain containing six potential membrane-spanning segments. A single discontinuous ATP-binding element was located in the C-terminal region of TpABC1. The second gene, TpABC2, also contains a single C-terminal ATP-binding motif. Copies of TpABC2 were present at four loci in the *T. parva* genome on three different chromosomes. TpABC1 exhibited allelic polymorphism between stocks of the parasite. Comparison of cDNA and genomic sequences revealed that TpABC1 contained seven short introns, between 29 and 84 bp in length. The full-length TpABC1 protein was expressed in insect cells using the baculovirus system. Application of antibodies raised against the recombinant antigen to western blots of *T. parva* piroplasm lysates detected an 85 kDa protein in this life-cycle stage.