

Abstract

Molecular genetic studies on the African trypanosome have in the past focused on only a few genes or gene products consequently a significant number of genes of this organism remain unknown. We are sequencing random directional cDNAs clones of *Trypanosoma brucei rhodesiense* to generate expressed sequence tags (ESTs), analysis of 2128 clones sequenced so far showed significant similarities with proteins already described in diverse organisms including man, rodents, kinetoplastids, yeast and plants a number of the ESTs encode homologues of proteins involved in signal reception and transduction cell division gene regulation, DNA repair and replication, general metabolism and structural integrity. A large proportion, 562 individual ESTs (26%, representing 299 different transcripts) had significant homology with genes described in organisms other than the African trypanosomes however 14% of the ESTs were from genes already described in trypanosomes. We expect that a number of the genes will present the other species of the African trypanosomes This prediction has been tested by hybridization of the random ESTs with total cDNA so far trypanosome species including *T. evansi*. The data will be discussed in the context of their potential contribution to understanding the biology of these and other parasitic protozoa and the diseases they cause.