

## **Abstract**

Iron-sulfur (FeS) cluster assembly is extensively studied in model organisms, e.g. *Saccharomyces cerevisiae*, *Homo sapiens*, and more recently in *Trypanosoma brucei*. However, little is known about FeS assembly in divergent anaerobic organisms such as *Trichomonas vaginalis*, which parasites in the human urogenital tract. This parasitic protist possesses anaerobic form of mitochondria, the hydrogenosome, in which some component of FeS cluster assembly machinery (ISC) has been identified, whereas the cytosolic CIA pathway has not been studied so far.

Our work deals mainly with TvIscU, a component of ISC pathway, and *T. vaginalis* CIA pathway. We suggest that both hydrogenosomal and cytosolic FeS cluster assembly pathways of this parasite differ from typical models. We examined possible ISC-CIA relationship. Next, we found homologues for several key components involved CIA machinery, namely Nbp35, Cfd1, Nar1, Cia1 and Cia2. However, we did not identify any homologous proteins to Tah18, Dre2 and Mms19. We expressed identified proteins with HA-tag and localized them by cell fractionation and immunofluorescence microscopy in *T. vaginalis*. Finally, we immunoprecipitated two Cfd1 paralogues, TvCfd1A and TvCfd1B to search for their interacting partners. The results suggest that these two paralogues interact with each other, however, we did not observe expected interaction with Nbp35.