

Amino acid uptake and homeostasis in *Trypanosoma brucei*

At the University of Bern, Switzerland, a position at the level of

PhD Student

is available

The unicellular parasite *Trypanosoma brucei* is the causative agent of sleeping sickness in humans and Nagana in cattle. Besides their impact on public health, these parasites are interesting model organisms in cell and molecular biology.

Like other unicellular parasites, *T. brucei* depend on the import of amino acids for their metabolism. Therefore, amino acid transporters represent suitable drug targets and potential drug delivery systems.

Research in our lab aims at characterizing amino acid transport systems by

- Evaluating their role for parasite growth, development and pathogenicity
- Analyzing their functional properties, e.g. by determining substrate selectivity and affinity
- Determining the role of posttranslational modifications, e.g. phosphorylation, or alternative splicing for transport function, protein turnover, or regulation

Recently, a number of transporters that were upregulated during starvation for amino acids were identified. Work proposed includes determining the biochemical properties of two of these transporters by using heterologous expression systems (*Saccharomyces cerevisiae* and/or *Xenopus laevis* oocytes, electrophysiology, transport assays), elucidating their subcellular localization (by using YFP fusion proteins or other tags), and determining the physiological role in the parasite in more detail (RNAi, knockout, qRT-PCR, metabolite analyses). Furthermore, a major aim will be to identify upstream regulators which are controlling the starvation response by using a genome-wide screen.

The international and interdisciplinary research environment at the University of Bern offers an excellent opportunity for career development.

We are looking for a motivated PhD student joining our research team. Salary will be according to the Swiss National Science Foundation and is limited to 3 years. Starting at earliest convenience. Applications (single pdf file) should include a curriculum vitae, description of research interests and experience as well as name and address of two references.

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