

Open PhD student position at the Medical University, Institute of Hygiene and Medical Microbiology,
Supervisor Ao.Univ.Prof. Dr. Markus Nagl

FWF project PAT7129523 entitled „NCT for therapy and prophylaxis of airborne mycoses“,
<https://www.fwf.ac.at/forschungsradar/10.55776/PAT7129523> .

Position financed by the Austrian Science Fund (FWF) for three years. Starting autumn 2025.

Salary according to FWF guidelines (presently 2786 Euros per month) – see

<https://www.fwf.ac.at/foerdern/schritte-zur-erfolgreichen-foerderung/weitere-informationen/personalkosten>

The project investigates mechanisms of action of the endogenous long-lived oxidant and antiseptic N-chlorotaurine (NCT), which has already been shown tolerability and efficacy as a topical anti-infective including airway infections. Our hypothesis is that NCT represents a promising tool for topical prophylaxis against airborne mycoses in high-risk patients as well as a single or supportive therapy in patients with probable or proven invasive mycosis. We aim to study *in vitro* the compatibility and interaction of NCT with antimycotics and with the pulmonary immunity as well as *in vivo* the efficacy of NCT to treat or prevent invasive airborne mycoses.

The PhD student will perform in-vitro investigations on the interaction of the endogenous anti-infective N-chlorotaurine (NCT) with the immune defence against mycoses and in-vitro investigations of samples from in-vivo studies done in a mouse fungal pneumonia model on NCT in therapy and prophylaxis of airborne mycoses. The student may also participate in the animal tests under respective supervision, for instance in operating the inhalation devices, monitoring of mice, help with sampling.

For the academic abstract of the project please see

<https://www.dropbox.com/scl/fi/rerwjkb13jv8m41tgz3/Academic-Abstract-2023.docx?rlkey=s0hg7li8w0lpc911bgism3ovw&dl=0>

The student will be integrated in the PhD program Infection, Immunity & Transplantation (IIT, <https://biomed-phd.i-med.ac.at/infection-immunity-transplantation/>) of the Medical University of Innsbruck.

Profile of applicants

- Master's degree in medicine, microbiology, biology, biochemistry or similar
- Interest in working with antimicrobial agents and learning new methods
- Interest in infectiology
- Skilled in laboratory work and likes teamwork
- Fluent in German or English

Applicants please contact: Ao.Univ.Prof. Dr. Markus Nagl, E-Mail m.nagl@i-med.ac.at, phone +43-512-9003-70708