



Master project

Start date: June 1st, 2026

Latest start date: September 7th, 2026

Project duration: 1 year

Supervisors: Diana Fontinha and Eyob Workneh

GIMM Lab: Miguel Prudêncio Lab

GIMM site: Lisbon

Project title: Development and Functional Characterization of Monoclonal Antibodies Targeting Plasmodium vivax

Project synopsis:

Malaria, caused by parasites of the genus Plasmodium, remains a major global health burden, with Plasmodium vivax responsible for a large proportion of cases outside sub-Saharan Africa. Prevention strategies currently rely on antimalarial drugs, vector control measures, and vaccination. More recently, monoclonal antibodies have emerged as a promising complementary approach, supporting passive immunization as an additional tool in malaria control and encouraging the extension of this strategy to P. vivax.

The main objective of this project is to generate and assess the functionality of monoclonal antibodies directed against P. vivax. To achieve this, mice will be immunized with a genetically modified parasite expressing P. vivax antigens, to induce a targeted immune response. Once antibody production is confirmed, spleen-derived antibody-producing cells will be isolated and fused with myeloma cells to generate hybridoma cell lines capable of continuous monoclonal antibody production. The resulting antibodies will then



be evaluated for their functionality, including their ability to recognize *P. vivax* antigens and to effectively interfere with parasite infection in both in vitro and in vivo models.

The project will take place at GIMM's Prudêncio Lab, located in Edf. Egas Moniz, Av. Prof. Egas Moniz, Lisboa. Throughout this project, the Master's student will acquire training on experimental techniques, including mosquito dissection, mouse immunization, handling and organ collection, ELISA, immunofluorescence microscopy, cell culture, flow cytometry and RT-qPCR.

Application: Applications must include the candidate's CV and a Letter of Motivation, and should be submitted to the Supervisor and Co-Supervisor by email:
diana.fontinha@gimm.pt and eyob.workneh@gimm.pt