

Saarland University is seeking a PhD candidate for ‘Therapeutic approach to improve migration of cytotoxic T lymphocytes in 3D’

Description:

Cytotoxic T lymphocytes (CTLs) are the key player in the adaptive immune system to eliminate tumor cells. Killing efficiency of CTLs can be, however, greatly impaired by dense extracellular matrix in solid tumors. Reported studies and our preliminary findings show that 1) both killing capacity and migration of CTLs are impaired in dense 3D matrix; 2) cytoskeleton plays a major role in regulating CTL migration, especially in 3D. The key question we would like to tackle here is whether cytoskeleton is a promising target to improve CTL killing in a dense 3D matrix or mimicking matrices. To this end, combining the expertise from Dr. Qu (immune aspects especially CTL) and Prof. Dr. Lautenschläger (microfabrication techniques and cytoskeleton), the PhD candidate is expected to: 1) identify the major cytoskeletal component regulates killing and migration in simplified microfabricated environments as well as in dense 3D matrix; 2) search for the pharmaceutical approaches targeting this cytoskeletal component to improve CTL killing in these environments.

In this project, the candidate will work closely with two groups at the Saarland University (Group of B. Qu at Campus in Homburg and group of F. Lautenschläger at campus in Saarbrücken). Saarland University offers a very competitive and attractive research environment for Ph.D. students including travel funding for conferences, regular seminars covering cutting-edge scientific topics as well as scientific training and career development. More importantly, the Ph.D. candidate will be involved in multi-disciplinary collaborations, especially with the Leibniz Institute for New Materials (INM) and the Helmholtz Institute for Pharmaceutical Research Saarland (HIPS), both situated in Saarbrücken/Germany.

This Ph.D. position is planned for 3 years, which will be supervised by Dr. Bin Qu and Prof. Dr. Franziska Lautenschläger.

Your profile:

Qualified applicants ideally have an expertise in the following areas: microscopy imaging (especially live cell imaging), microfabrication, flow cytometry and primary cell culture. Experience with Material Sciences is preferred but not mandatory. With mouse tumor models or the willingness to work with mice is optional. Good written and spoken English is required.

Application

In the applications please include: (i) curriculum vitae, (ii) a list of publications, and (iii) two to three references with name plus e-mail address. Please send the application to Dr. Bin Qu (bin.qu@uks.eu) and Prof. Dr. Lautenschläger (f.lautenschlaeger@physik.uni-saarland.de).