

Cancer-associated variants of DNA replication proteins

Summary

DNA replication is one of the major targets of cancer therapies, as cancer cells tend to proliferate faster and are generally more prone to replication stress. In addition, mutations in or misregulation of certain replication proteins have been implicated in cancer development. This project aims to study cancer-associated mutations in replication proteins and their effect on DNA replication initiation, DNA synthesis and cell cycle in cultured human cells.

Methods: CRISPR-Cas9 genome editing, cloning, mammalian cell culture, flow cytometry, transfections, siRNA, survival/proliferation assays; co-immunoprecipitations, pulldowns, western blots, proteomic screens.

Research field:	Biomedicine and health technology
Supervisor:	Dr. Tatiana Moiseeva
Availability:	This position is available.
Offered by:	School of Science Department of Chemistry and Biotechnology
Application deadline:	Applications are accepted between June 01, 2022 00:00 and June 30, 2022 23:59 (Europe/Zurich)

Description

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Responsibilities and tasks:

- Plan and perform experiments, analyse data, write scientific papers.
- Keep up to date on scientific literature related to the topic of thesis
- Attend PhD classes and fulfil the requirements for homework, evaluations, etc.
- Presentations at conferences, seminars, workshops, etc.
- Write and defend a PhD thesis at the end of the study program

Qualifications:

- We are looking for a highly motivated PhD student with a strong background in molecular or cell biology. Previous experience in the field of genome maintenance is preferred but not required.
- M.Sc. in a related discipline
- Strong communication skills (English) that are compatible with doctoral-level requirements, i.e., writing academic papers and giving presentations in English
- Proficiency in several of the following methods: mammalian cell culture, protein and DNA gel electrophoresis, western blot, immunoprecipitations or affinity pulldowns, PCR, cloning, site-directed mutagenesis, CRISPR/Cas9 genome editing.
- Ability to follow protocols
- Good organizational skills, ability to document and analyze experiments



Applicants must include a recommendation letter from their master's research supervisor.



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