

INFORMATION FOR CANDIDATES

for appointment as
Postdoctoral Fellow (Fixed-term)

UNIVERSITY OF OTAGO DEPARTMENT OF BIOCHEMISTRY

The research will be undertaken in a well-equipped laboratory located in the Department of Biochemistry. This laboratory has the requisite facilities to undertake research in molecular biology and bioinformatics.

DEPARTMENT OF BIOCHEMISTRY

The Biochemistry Department is a large research and teaching department with ~100 graduate students and ~110 administration, teaching and research staff. Research is largely concerned with fundamental processes associated with a number of significant biomedical problems such as cancer research and drug development. Extensive use is made of bioinformatics, sequencing technologies, and proteomics tools. The Otago Genomics Facility is located in the Department of Biochemistry.

SUMMARY OF THE RESEARCH PROJECT

Our lab studies long non-coding RNAs (lncRNAs) as therapeutic targets and prognostic markers in cancer. We previously identified Mammary Tumor Associated RNA 20 (MaTAR20), an lncRNA that impacts tumor growth and metastasis in mouse models of breast cancer. To further examine the role of MaTAR20 in the metastatic cascade, we will perform single-cell RNA-seq of primary tumors, circulating tumor cells and metastatic nodules. The project will elucidate if MaTAR20 is an early predictor of metastasis and thus could be used as a potential diagnostic and/or prognostic marker in the future.

MAIN OBJECTIVES

- To plan and execute experiments relating to the overall objectives of the project and analyse the subsequent data.
- To present results and contribute to publications.

KEY TASKS

- Research appropriate methodologies and perform experiments as required.
- Work with mouse models and cell culture under appropriate approvals.
- Isolate single cells from tumors, blood and metastatic nodules.
- Generate high-throughput sequencing libraries.
- Analyse results from experimental work.
- Work independently with minimal supervision.

- Ensure all laboratory facilities run smoothly and efficiently in support of the proposed research.
- Attend weekly laboratory meetings and present research data as appropriate.
- Assist in the supervision of students and research assistants.
- Keep up-to-date with relevant published scientific papers.
- Make conference presentations and assist in writing scientific papers arising from the research.
- Assist with the writing of associated grant applications.
- Interact with key collaborators.

RELATIONSHIPS

Directly responsible to:	Dr Sarah Diermeier.
Supervision of:	Assist with the supervision of students and research assistants associated with the project.
Functional relationships with:	Research staff and students in the Biochemistry Department. Ordering, administration and storeroom staff in the Biochemistry Department. Scientific collaborators.

BUDGETARY RESPONSIBILITY

- Responsible for some ordering but not responsible for the overall budget.

PERSON SPECIFICATION

- A PhD in molecular biology, biochemistry, cancer research or a related discipline.
- Experience with a range of molecular biology methods, especially nucleic acid extractions, and sterile cell culture techniques.
- Experience in sample preparation for high-throughput sequencing.
- Experience with mouse models is beneficial.
- Experience with bioinformatic analysis of sequencing data is preferred but not required.
- Evidence of research productivity, as indicated by publications in international peer-reviewed journals.
- Excellent written and oral communication skills.
- Highly organised and motivated.
- Accurate recordkeeping and attention to detail.
- Ability to work productively with a wide variety of people in a research environment.
- Ability to work without direct supervision, set priorities and allocate own timetable.