Job Profile
Job Description

Queen Mary
University of London

Job Details

Job Details		
Job Title:	**Postdoctoral Research Assistant**	
School/Dept/Institute & Centre:	Barts Cancer Institute, Centre for tumour microenvironment	
Reports to:	Principal Investigator	
Grade:	4/5	**Full Time**
Career Family:	Academic & Education - Research	
Appointment period:	Three years in the first instance	
Current Location:	Charterhouse Square	

Job Context

The Barts Cancer Institute (BCI) is a Cancer Research UK Centre of Excellence whose work aims to transform the lives of those with and at risk of cancer through innovative research in the laboratory, in patients and in populations. BCI is internationally renowned in many areas of cancer research and it combines ground-breaking basic research with the expertise of clinicians and clinician scientists from the Centre for Experimental Cancer Medicine and the Barts NHS Trust to achieve improvements in cancer patient care. BCI is also a partner in the CRUK City of London Major Centre (together with UCL, Kings and the Francis Crick Institute) which is a Centre of Excellence in Biotherapeutics. BCI is committed in supporting and developing future cancer researchers through its extensive postgraduate training. It is one of six institutes within The School of Medicine and Dentistry (SMD).

Job Purpose

- To undertake research investigations in collaboration with and under the supervision of the Principal Investigator (PI) in order to realise the objectives and development of the research programme.

- To contribute to the overall scientific endeavour of the Centre, and possibly to take responsibility for areas of other projects, as demand requires.

- To work as part of the Institute's research team, being mutually supportive and covering duties as necessary during colleagues' absences and at times of additional pressure, as directed.

Main Duties & Responsibilities

Research:

The focus of our research is the tumour microenvironment and we are particularly interested in understanding the composition and function of the tumour extracellular matrix in immunosuppression. Cancer types we focus on include ovarian and breast cancers. The lab is split across three synergistic multidisciplinary themes, analysis (proteomics and glycomics combined with machine learning informatics), functional studies (engineered 3D *in vitro* tumour models), and application (antibody development). More details can be found at https://www.bartscancer.london/staff/dr-oliver-m-pearce/

Specific Duties:

- The principal duty of the post will be to undertake laboratory research, developing the assigned project (see above), in a timely and resource efficient manner, as appropriate for the research area.

- To work towards a publication record of the kind that will enhance the Centre's research reputation at national and international level and that will clearly demonstrate originality and scholarship.

- To attend and participate in Centre's academic activities, e.g. Laboratory and journal club meetings, research group meetings and weekly seminars.

- To make research initiatives an original contributions to the research programme wherever possible and to contribute freely to the team research environment in a manner conducive to the success of the research project as a whole.

- To assist with experimental procedures in animals, where necessary.

General Duties:

- To execute experiments.

- To collect and analyse data.

- To maintain appropriate databases, keeping accurate written and computerised records and to ensure that these records are stored in a secure place and to maintain confidentiality of all electronically stored personal data in line with the provisions of the Data Protection Act.

- To prepare reports and scientific publications to disseminate results from the programme of research.

- To keep up to date with specific, clinical and professional issues, in particular developments in the specific subject area.

- To undertake literature searches to explore potential research projects and to be able to interpret and present the findings of the literature searches and advise the research teams appropriately regarding potential projects.

- To supervise and train where necessary new members of the research team.

- To assist in drafting budgets and applications for potential research projects and grants.

- Undertake such other duties as may be reasonably expected by the line manager or Head of Department.

The above list of responsibilities is not exhaustive and the jobholder may be required to undertake other duties commensurate with the level of the role, as reasonable requested by their line manager.

This job description sets out the duties of the post at the time it was drawn up. Such duties may vary from time to time without changing the general character of the duties or level of the responsibility entailed. Such variations are a common occurrence and cannot in themselves justify a reconsideration of the grading of the post.

Job Profile
Person Specification

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This table lists the essential and desirable requirements needed in order to perform the job effectively. Candidates will be shortlisted based on the extent to which they meet these requirements.

	Requirements	Essential / Desirable
Qualifications	PhD in a relevant biological subject	E
	Undergraduate degree in a biological subject	E
Knowledge, Skills and Experience	Significant research laboratory experience in molecular biology, 3D tissue culture	D
	Cancer biology experience	D
	Appropriate publication records	D
	Knowledge of immunology	D
	Experience in the field of matrix biology	D
	Proven laboratory bench skills and the ability to maintain accurate and up to date records	E
	Understanding of the research process	E
	Ability to organise and prioritise own work and organise research within the project timetable	E
	Ability to interpret the scientific literature and incorporate this into the project	E
	Computer literacy	E
	Effective team working	E
	Good communication skills	E
	Good Analytical skills	E
	Statistical analytical skills	D
Attitude and Disposition	Flexible and co-operative	E
	Self-motivated and hardworking	E
	Willingness to learn new skills	E
Other	Willingness to work flexibly in order to achieve project demands	E

E – Essential: Requirements without which the job could not be done.

D – Desirable: Requirements that would enable the candidate to perform the job well.

The Project

Title: ***Restoring immunotherapy response by targeting the tumour extracellular matrix.***

The tumour extracellular matrix forms a barrier to immune cell contact with malignant cells, resulting in failure of immunotherapy response. In our previous work (Pearce *et al, Cancer Discovery*, 2018) we found a composition of extracellular matrix proteins which associate with poor prognosis across many cancers tested. Following on from that work, my team has found that some of these proteins form a barrier around malignant cells that is blocking immune cells from contacting them. The overall goal is to target these extracellular matrix proteins, and in doing so restore immune cell contact with malignant cells which we predict will restore response to immunotherapy. This work will use a combination of analytical methods and data integration that include our proteomics pipeline (Naba *et al*, JPR, 2017) and applied functional studies using engineered 3D *in vitro* and *in vivo* tumour microenviroments.

The lab

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