



Candidate Information

Position:	Research Fellow (Breast Cancer Biology/Immunology)
School/Department:	Pharmacy
Reference:	22/109726
Closing Date:	Monday 25 April 2022
Salary:	£34,304 per annum
Anticipated Interview Date:	Wednesday 11 May 2022
Duration:	3 Years

JOB PURPOSE:

To be an active member of the Buckley and McCarthy research groups with the goal of conducting hypothesis-driven research and developing as an outstanding research scientist with an emphasis on personal and scientific integrity.

This position will involve the development of a therapeutic mRNA vaccine against mutant p53 for the treatment of Triple Negative Breast Cancer. This translational project, funded by Breast Cancer Now, combines ex vivo analysis TNBC patients samples, nanoparticle formulation/characterisation of mRNA using the RALA delivery platform and the characterisation of immune and anti-cancer response to mRNA vaccine in vivo (mouse models).

MAJOR DUTIES:

1. Develop and execute research plans within the remit of the Breast Cancer Now project with the aid of the PIs.
2. Analysis of ex vivo TNBC samples to identify antigenic region of mutant p53 to design mRNA vaccine against.
3. Formulation and characterisation of nanoparticles using the RALA delivery platform.
4. In vivo analysis of immune and therapeutic response to mRNA vaccine alone or in combination with immunomodulators.
5. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
6. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
7. Prepare, often in consultation with supervisor, material for IP protection and publication. If appropriate present at national/international conferences.
8. Assist grant holder in the preparation of funding proposals and applications to external bodies
9. Carry out routine administrative tasks associated with the research project/s to ensure that project/s are completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
10. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
11. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines. Development of a literature base.

ESSENTIAL CRITERIA:

1. A Degree in a relevant subject.
2. Have or about to obtain a PhD in cancer biology, or biomedical sciences.
3. 3 years recent relevant experience in standard molecular biology assays (e.g. tissue culture of human and/or murine cancer cell lines, western blot, qPCR, flow cytometry).
4. Experience in the design and successful execution of small animal in vivo studies.
5. Experience in preparing material for publication and presentations at national/international conferences.
6. Experience of final year undergraduate student supervision. Willness to assist early stage PhD students to establish core assay technical competence.

7. Ability to carry out routine administrative tasks associated with the research projects and laboratory maintenance.
8. Knowledge of assessing in vivo immunological responses.
9. Ability to communicate effectively, both verbally and in writing.
10. Practical problem-solving skills, and independence of thought are required.
11. Ability to present scientific arguments and data in a clear, concise and confident manner.
12. Ability to present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
13. A calm and conscientious scientist, able to work in a disciplined manner within a team environment.

DESIRABLE CRITERIA:

1. PhD with a focus on TNBC and/or cancer immunology.
2. Experience in multi-colour/high parameter flow cytometry.
3. Experience utilising patient derived PBMCs.
4. Experience drug delivery systems and/or nanoparticles.
5. Hold a valid UK home office personal licence.
6. Experience of intradermal injections and/or orthotopic mammary gland implantation
7. Experience in cancer vaccine development.
8. Experience of assisting in preparation of funding proposals and applications to external bodies.
9. Experience in supervision of postgraduate students.