Candidate Information

Position:	Research Fellow in Drug Development
School/Department:	The Wellcome-Wolfson Institute for Experimental Medicine
Reference:	19/107905
Closing Date:	Wednesday 13 November 2019
Salary:	£33,797 per annum
Duration:	12 months

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the Gremlin biology group led by Dr. Derek Brazil at the Wellcome Wolfson Institute for Experimental Medicine. The position will involve working as part of a Invest Northern Ireland-funded Proof of Concept (POC) research programme that seeks to develop novel small molecule inhibitors of Gremlin1, a secreted antagonist of bone morphogenetic proteins (BMPs). These inhibitors have been identified in a high throughput drug screen and will now be optimised using medical chemistry approaches, as well as a range of cell biology assays to determine efficacy and potency. The outputs from this project will be the development of first and best in class lead Grem1 inhibitors that can be tested in pre-clinical models of colorectal cancer and kidney fibrosis.

The project will utilise high throughput methods, single cell level approaches, and is based in a highly collaborative team, carrying out basic research. The post is a senior role in the team and as such, successful applicants will have responsibilities in independent research, supervision, planning, day-to-day lab management, collaborations and outreach. The post is suited to a highly ambitious individual, preferably with previous postdoctoral experience, and is available for 1 year.

MAJOR DUTIES:

1. Develop, plan and deliver an area of personal research and expertise, and/or undertake research under supervision within a research programme aimed at developing novel Grem1 small molecule inhibitors.
2. Develop and implement, with support, a highly ambitious personal career development plan in the course of the post.
3. Maintain up-to-date knowledge of the field of interest at the cutting edge and communicate same to the group.
4. Design, develop and refine cell-based models in order to obtain reliable and reproducible data identifying the potential of novel small molecule Grem1 inhibitors.
5. Carry out analyses, critical evaluations and interpretations of experimental data and the literature using methodologies and other techniques appropriate to area of research.
6. Assist PI in supervision of PhD students, undergraduate students, summer students, placement students etc.
7. Present regular progress reports on research to members of the research group, other groups within the Institute/University, to external audiences nationally and internationally to disseminate and publicise research findings.
8. Prepare, always in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
9. Assist grant holder in the preparation of funding proposals by generating preliminary data and applications as well as project progress reports to external bodies.
10. Carry out routine administrative tasks associated with the research projects/group to ensure that projects are completed on time and within budget and that the group functions efficiently. These might include organisation of project/group meetings and documentation, financial control, stock management/procurement, risk assessment of research activities and development of SOPs. Carry out routine administrative tasks associated with the day-to-day running of the research group in a communal lab setting.
11. Carry out school/undergraduate/post-graduate student and visiting researcher training and supervision, demonstrating, tutoring or lecturing duties within the post holder’s area of expertise and under the guidance of a member of academic staff.
12. Participate, and in some cases lead outreach activities on behalf of the group/Institute.

13. Participate in local research-related activities such as journal clubs, training sessions, seminar series etc.
14. Assist in assessment of research communications and data, particularly within the group.
15. Additional research and/or laboratory related duties including outreach activities, within the general range of the post and competence of post holder.

Planning and Organising:

1. Plan for specific aspects of research programme. Timescales range from 1-3 months in advance and may contribute to overall research group planning.
2. Plan for access to, and use of, research resources, laboratories and workshops where appropriate.
3. Assist PI in budget management and reporting to Invest NI on a quarterly basis.
4. Plan own day-to-day activity within framework of the agreed research programme as well as communal activities (e.g. meetings) were appropriate.
5. Plan up to 3 months years in advance to meet deadlines for grant applications, journal publications and to prepare presentations and papers for conferences and meetings.
6. Coordinate and liaise with other members of the research group and collaborative research groups regarding work progress and stock management.
7. Assist in training other group members on effective planning and organisation.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner including liaising with vendors and collaborators.
2. Provide guidance as required to support staff and any post-graduate/under-graduate students and visiting researchers who may be assisting with work of the group.

Internal and External Relationships:

1. Liaise on a regular basis with supervisor, colleagues, students and collaborators.
2. Communicate appropriately and effectively with lab colleagues topics such as latest research findings/results within the group and field.
3. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
4. Travel to, and present at scientific meetings and work in collaborative laboratories when necessary.
5. Join external networks to share information and ideas and help develop and maintain external collaborations, as appropriate.
6. Contribute to the School's outreach programme by developing links with local community groups, industries etc.

ESSENTIAL CRITERIA:

1. Have or about to receive a PhD in Molecular Cell Biology, Pharmacology or a closely related area.
2. At least 3 years recent research experience to include experience in molecular cell biology, Pharmacology or related subject.
3. Recent extensive hands-on experience in at least two of the following:
   1. tissue culture.
   2. C2C12 assays.
   3. ELISA assays.
   4. Use of Galleria Mellonella as a model of innate immune signalling.

   AND: Recent extensive hands-on experience in at least two of the following:
   1. Molecular biology/plasmid construction/point mutant generation
   2. confocal microscopy
   3. recombinant protein purification/protein pull-downs
4. Recent high-quality original research publications in reputable peer-reviewed journals, commensurate with career stage.
5. Experience teaching/supervising /mentoring postgraduate/ undergraduate/school students and visiting researchers in the laboratory.
6. Methodical approach to project management and meticulous in regards to experimental procedures and record keeping.
7. Highly ambitious, motivated, efficient, organised and show a commitment to, and interest in, research topic.
8. Competent in maintaining knowledge of cutting-edge of field of expertise.
9. Competent in giving effective and informative oral and poster presentations.
10. Competent in communicating stipulated research skills essential to the post in CV/job application.
11. Strong ability to work from own initiative.
12. Excellent team working skills in multiple internal and external team settings.

13. Leadership qualities.
14. Excellent problem-solving skills.
15. Irregular hours including evening, weekend and other out-of-hours working will be a component of the research at times.
16. Must be willing to travel to national and international meetings and collaborative laboratories.
17. Must be willing to travel to biotech conferences and industry partners to discuss investment opportunities.

DESIRABLE CRITERIA:

1. Experience in tissue culture (luciferase assays), molecular biology, siRNA methods, surface plasmon resonance (SPR), general communal lab management.
2. High quality manuscript, report and abstract writing experience.
3. Productive PhD/postdoctoral experience as evidenced by a strong publication record commensurate with career stage.
4. Experience teaching lab members as well as undergraduate lectures/tutorials/practicals.
5. Classroom-based teaching such as lecturing, tutorials.
6. Research project management.
7. Up-to-date knowledge of fields of macrophage biology and/or cellular microbiology.
8. Experience working in outreach settings.