

## Candidate Information

<b>Position:</b>	Research Fellow in Diabetic Retinopathy
<b>School/Department:</b>	Wellcome-Wolfson Inst for Experimental Medicine
<b>Reference:</b>	21/108590
<b>Closing Date:</b>	Monday 1 March 2021
<b>Salary:</b>	£33,797 - £38,017 per annum
<b>Anticipated Interview Date:</b>	Tuesday 16 March 2021
<b>Duration:</b>	This post is available until 31 March 2024

### JOB PURPOSE:

To join the Diabetes and Vascular Stem Cell Biology Research team led by Prof Reinhold Medina within the Wellcome-Wolfson Institute for Experimental Medicine to work on a research project investigating new therapies for diabetic retinopathy. This study will target the BMP9 signalling pathway as a new approach to stabilise the diabetic retinal vasculature. This project will characterise the molecular mechanisms used by BMP9 to protect the blood retinal barrier from breakdown induced by diabetes.

### MAJOR DUTIES:

1. To be actively involved in the existing research programme as directed by the line manager and to ensure adequate planning and progression of the investigation so that the overall research objectives for the project are met.
2. Design, develop and refine experimental models to investigate how BMP9 protects from diabetes-induced blood retinal barrier breakdown, to obtain reliable and reproducible data.
3. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
4. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
5. Prepare, in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
6. Carry out routine administrative tasks associated with the research project to ensure that project milestones are completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
7. Assist in other laboratory related duties including outreach activities, within the general range of the post and competence of the post holder.

### Planning and Organising:

1. Plan for practical and specific aspects of the research project.
2. Plan for the use of research resources, laboratories and workshops where appropriate.
3. Plan own day-to day activity within framework of the agreed research programme.
4. Plan in advance to meet deadlines for progress reports, journal publications and presentations for conferences.
5. Coordinate and liaise with other members of the research group over work progress.

### Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner including liaising with vendors, and routine ordering of research consumables through P2P.
2. Provide guidance as required to support staff and any postgraduate/undergraduate students and visiting researchers who may be assisting with research work within the group.

### Internal and External Relationships:

1. Liaise on a regular basis with supervisor and other members of the research team.

2. Join external networks to share information and ideas.

**ESSENTIAL CRITERIA:**

1. Have or about to obtain a PhD in Molecular Biology, Cell Biology, or a closely related area of Biomedicine.
2. At least 3 years recent, hands-on, research experience and laboratory skills relevant for this project.
3. Recent extensive hands-on experience in at least two of the following:
  1. In vitro cellular functional assays
  2. Flow Cytometry and/or Western blotting
  3. Genetic modification in cells/tissues using viral vectors
  4. Use of Vascular Biology Technologies, such as Seahorse metabolism assays, xCELLigence TEER, Hypoxia chambers, Shear Stress perfusion chambers or bioreactors.
4. Methodical approach to project management in regards to experimental procedures and record keeping.
5. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to enable work within established diabetes vasculopathy research programmes.
6. Ability to communicate complex information clearly.
7. Willing to attend and present at national and international meetings.
8. Demonstrable intellectual ability and awareness of the scientific literature pertaining to area of interest.
9. Ability to assess and organise resources.
10. Problem solving skills.
11. Team working skills and experience.
12. Must be prepared to work outside normal office hours.
13. Human blood handling is required.
14. Mouse handling is required.

**DESIRABLE CRITERIA:**

1. Experience in human cell culture.
2. Experience with AAV gene therapy methodologies.
3. Experience in Handling of blood-derived cells, their isolation and characterisation.
4. Holder of a Home Office Personal License for in vivo experiments in murine models.
5. Experience teaching/supervising undergraduate students and visiting researchers in the laboratory.
6. Research Project Management Experience.
7. Computing skills especially for software commonly used in biomedical research such as FlowJo, R, and GraphPad Prism.
8. Evidence of having presented at conferences (poster and/or oral presentations).