PARTICULARS OF APPOINTMENT

Ref: MI/17/30

Job Title: Postdoctoral Scientist

1. The Institute invites applications for the above post.

2. Salary will be within the range £30,000 – £39,800 per annum (dependent upon relevant experience and qualifications).

3. Informal enquiries can be made to Dr Patricia Muller via email: patricia.muller@manchester.ac.uk

4. Applications should be returned to the Human Resources Department via email (jobs@cruk.manchester.ac.uk).

5. To apply for this position please provide a completed CV cover sheet which includes the names and contact details of three referees, CV and Equal Opportunities Form. A cover letter is optional. No further information will be taken into consideration as part of your application.

6. All applicants should complete an equal opportunities form with their application.

7. If you have not been contacted within four weeks of the closing date you should assume that, on this occasion, your application has not been successful. We would, however, like to take this opportunity to thank you for your interest in the Cancer Research UK Manchester Institute, and we hope that this will not deter you from applying for other positions in the future.

8. During The Paterson Building’s recovery following the fire in April 2017, you may be required to travel between/or be based at any of the following CRUK Manchester Institute locations: Alderley Park, University of Manchester, Manchester Cancer Research Centre, The Christie.

9. The Institute will endeavour to contact shortlisted candidates promptly; however there may be occasions where a high volume of applications are received therefore applicant’s patience is appreciated.
Postdoctoral Scientist in Tumour Suppressors Group

- Salary in the range of £30,000 - £39,800 per annum (dependent upon qualifications and experience)
- Job Ref: MI/17/30
- Duration: Fixed term for 3 years

We are currently looking for a Postdoctoral Scientist within the Tumour Suppressors Group. In this group we aim to understand the role of p53 and mutations in p53 in small cell lung cancer and the interplay with other tumour suppressors. We are particularly interested in which mutations correlate with worse outcome and to what extent p53 mutations contribute to chemoresistance and the aggressiveness of this disease. Previously, we discovered a role for mutant p53 in regulating rab coupling protein (RCP) recycling of integrins and growth factor receptors in invasion and metastasis. Preliminary data in the lab indicates that not only integrins and growth factor receptors are regulated, but also drug transporters. This would make RCP an interesting drug target to prevent metastasis and to make tumours more sensitive to current chemotherapeutics.

The post holder will investigate the role of RCP in small cell lung cancer by checking expression levels in patient samples, mutation status and the role of RCP in chemoresistance of small cell lung cancer primary tumour cells. They will characterize the interaction between RCP and drug transporters and work together with a small company to investigate the potential of small molecule inhibitors to prevent RCP from binding to those drug transporters. Any potential candidate molecules will be tested in a variety of cell lines, primary tumour samples and in xenograft in vivo experiments.

The successful applicant should have a PhD in Cell Biology, Molecular Biology, Medical Biology, Oncology, or a related field. Experience in cell culture, cell signalling pathways and molecular biology is essential. Whilst experience with primary cell lines and in vivo modeling is not required, it is desirable.

For any informal enquiries about this post, please contact Dr Patricia Muller, email: patricia.muller@manchester.ac.uk

The Cancer Research UK Manchester Institute (www.cruk.manchester.ac.uk), an Institute of The University of Manchester (www.manchester.ac.uk), is a world-leading centre for excellence in cancer research. The Institute is core funded by Cancer Research UK (www.cancerresearchuk.org), the largest independent cancer research organisation in the world. We are currently situated at the internationally-renowned life sciences campus at Alderley Park in Cheshire England, 15 miles from Manchester, a vibrant and dynamic city surrounded by beautiful countryside.

We are partnered with The Christie NHS Foundation Trust (adjacent to the CRUK MI Paterson Building) in South Manchester (www.christie.nhs.uk), one of the largest cancer treatment centres in Europe. These factors combine to provide an exceptional environment in which to pursue basic, translational and clinical research programmes.

Our aim is to understand the fundamental basis of cancer and apply that knowledge to developing new treatment strategies for cancer patients. Our advanced research programmes span a spectrum of cancer research, from the molecular and cellular basis of cancer through to drug discovery,
translational research and clinical trials.

The Institute has access to outstanding laboratory facilities and exceptional core services, including next generation sequencing, microarrays, confocal microscopy, bioinformatics, histology and mass-spectrometry.

To apply for this position please complete a CV, CV cover sheet along with an equal opportunities form and submit to: jobs@cruk.manchester.ac.uk quoting the reference number above. A cover letter is optional.

Additional information - On the 26th April 2017 The Paterson Building, which housed most of the Cancer Research UK (CRUK) Manchester Institute, caught fire resulting in significant damage. We are striving to rebuild our world-class research facilities and we would like to make you aware that in the meantime, the primary place of work for this position will be at the internationally-renowned life sciences campus at Alderley Park, which has excellent facilities to carry out research. We anticipate that this will be for a few years, after which we will return to our original site in Withington, Manchester, next to The Christie NHS Foundation Trust (Wilmslow Road, M20 4BX).
CANCER RESEARCH UK MANCHESTER INSTITUTE
JOB DESCRIPTION

JOB DETAILS

Job Title: Postdoctoral Scientist
Grade: Postdoctoral Scientist
Department: Tumour Suppressors Group
Division: Cancer Research UK Manchester Institute (CRUK MI)

ORGANISATIONAL ARRANGEMENTS

Accountable to: 1. Institute Fellow, Tumour Suppressors Group

JOB PURPOSE

To contribute to the success of a research programme by undertaking specific research project(s) on behalf of and guided by the Group Leader.

PROJECT

In this project the post holder will investigate the role of mutant p53 in chemoresistance.
The aims of the project are:

1. Characterise the interaction between Rab Coupling Protein (RCP) and P-glycoprotein- drug screening to identify molecules inhibiting this interaction.
2. Investigate the role of RCP in drug efflux by other drug transporters.
3. The role of RCP/ mutant p53 in cisplatin resistance in Small Cell Lung Cancer (SCLC).
4. The role of other tumour suppressors on RCP function.

BACKGROUND

p53 is the most frequently mutated gene in human cancers. Mutations lead to loss of p53 protein expression or the expression of a mutant p53 protein. Mutant proteins haven't only lost wild type function, but also acquire novel functions in promoting metastasis and chemoresistance. Previously, we uncovered a role for RCP (Rab Coupling Protein) in driving mutant p53 dependent invasion and metastasis. RCP is a membrane bound protein involved in the endosomal recycling process. It is overexpressed in a variety of cancers and we characterised in mutant p53 cells that it transports integrins and growth factor receptors from intracellular vesicles back to the plasma membrane to facilitate cell migration and invasion.

In a screen to detect novel RCP interacting proteins, we discovered P-glycoprotein and various other
drug transporters. Interestingly, unpublished data revealed that mutant p53 through RCP dependent recycling of P-glycoprotein could promote chemoresistance. Binding domains in RCP to P-glycoprotein and to (Epidermal Growth Factor Receptor) EGFR are similar, presenting the opportunity to target this site with molecules or peptide to prevent RCP interacting with P-glycoprotein or EGFR. These drugs could therefore both sensitise tumour cells to chemotherapeutics and at the same time inhibit metastasis.

It is recognised that the post holder is in training to develop their academic independence.

**DUTIES AND RESPONSIBILITIES**

- To be inquisitive.
- To develop and drive an independent project within a multidisciplinary group.
- To pursue a program of work agreed with the Group Leader.
- To ensure successful completion of the project and maximise publication output.
- To prepare manuscripts for publication; to address referees comments.
- To keep up with the scientific literature.
- To design and execute experiments.
- To use established procedures and develop new approaches; to acquire new skills.
- To maintain accurate records of experiments and reagents.
- To ensure that all items that are used during the course of a program of work are replaced before being used up by directly ordering the relevant items.
- To prepare and present work at and attend weekly laboratory meetings.
- To present work at the Institute, and at domestic and international meetings.
- Mandatory attendance at Institute seminars.
- To attend the Institute retreat, space permitting.
- To supervise graduate students, visiting scientists and others as necessary.
- To interact with collaborators and companies.
- To conform to COSHH, Codes of Practice, and Local and Institutional Rules.
- To adhere to the rules and regulations of any facilities, in house or external, that needs to be accessed during the course of the work programme.
- To perform other functions consistent with the position, nature of the post and as determined by the Group Leader.

**STANDARDS OF PERFORMANCE**

- Work efficiently, cost-effectively and in a flexible manner.
- To meet objectives within pre-determined timescales.
- Strict adherence to protocols and Institute policies.
- To comply with Health & Safety requirements, including having an awareness of personal responsibilities to maintain a safe working environment.
- To maintain confidentiality of information in line with data protection requirements and University policy.
- Familiarise themselves with the University’s Equality and Diversity policies and to actively support these wherever possible.
- Manage and prioritise own workload to meet deadlines.
- Effective communications to be maintained at all levels.
• To contribute to the University’s agenda for social responsibility, including sustainability.
• The post holder will be required to receive a Hepatitis B vaccination if not already immunised.
**PERSON SPECIFICATION**

The person specification should set out the qualifications, experience, skills, knowledge, personal competencies and other requirements which the post holder requires to perform the job to a satisfactory level.

Job Title: **Postdoctoral Scientist**

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<thead>
<tr>
<th>ESSENTIAL</th>
<th>DESIRABLE</th>
<th>METHOD OF ASSESSMENT</th>
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<tbody>
<tr>
<td>Qualifications</td>
<td>Extra qualities which can be used to choose between candidates who meet all the essential criteria</td>
<td>CV and Presentation of certificate</td>
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<tr>
<td><strong>QUALIFICATIONS</strong></td>
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<tr>
<td>• PhD* in Cell Biology, Molecular Biology, Medical Biology or Oncology</td>
<td>• Home Office Personal Licence</td>
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<td><em>(as a minimum requirement candidates must have submitted their thesis</em>* by the start date of their employment and awarded their PhD within the specified probationary period).</td>
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<tr>
<td><strong>EXPERIENCE</strong></td>
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<td>CV, references, publications and interview</td>
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<tr>
<td>• Relevant experience in oncology, cell signalling, protein-protein interactions</td>
<td>• Demonstrated ability to generate top quality publication(s)</td>
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<td>• Demonstrable experience in defining and solving research questions in relation to the project</td>
<td>• Experience in working with xenograft <em>in vivo</em> modeling</td>
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<td>• Experience in drug screening</td>
<td>• Experience across several disciplines</td>
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<td><strong>SKILLS</strong></td>
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<td>CV, references, publications and interview</td>
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<tr>
<td>• Basic skills in immunoprecipitations, cell death/viability assays, statistics</td>
<td>• Ability to inspire and motivate colleagues and any students and technicians with whom interactions are necessary</td>
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<td>• Basic skills in cloning and tissue culture</td>
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<td>• Ability to share ideas and information and communicate clearly and concisely</td>
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<td>• Ability to interact with colleagues and learn new skills</td>
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<td>• Ability to engage in constructive debate and work in teams to support the objectives of the laboratory</td>
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<td>• Ability to prioritise and</td>
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| **SKILLS contd ...** | • Innovative approach to problem solving  
• Ability to work independently with minimal supervision  
• Computer literate, familiarity with MS office package  
• To set goals, respond to challenges and take the initiative  
• A demonstrated ability to perform research and to develop novel ideas | CV, references, publications and interview |
| **KNOWLEDGE** | • Knowledge of the essentials of chemoresistance in cancers  
• Knowledge in the field of tumour suppressors  
• Working knowledge of the essentials of biochemistry, molecular biology, genetics, proteomics or cell biology  
• Knowledge of cancer biology | • Ability to rapidly assimilate new information into a comprehensive view of the development of the field  
• Working knowledge of p53 | CV, references, publications and interview |
| **OTHER (Please Specify)** | • Self-motivated  
• Meticulous  
• Interactive  
• Organised  
• Ability to work to strict deadlines  
• Ability to work well within a team framework as well as on an individual project  
• Technically focused  
• Willingness to learn new experimental techniques  
• Willingness to implement new management and experimental techniques  
• To show commitment to equality and fairness and integrity in dealing with others  
• To be willing to work across organisational boundaries  
• To seek new knowledge and share ideas  
• To be open and responsive to change and innovation | Interview  
Referees comments |
** It is essential that thesis submission takes place prior to the individuals start date. Written confirmation is required by the University where the PhD is being studied that a submission has taken place. The successful candidate has to be awarded their PhD qualification within the Probation period in place for a Postdoctoral Scientist otherwise this will not meet the requirements for the grade.
Manchester is one of the great European cities and the Cancer Research UK Manchester Institute is located a short distance from the city centre and is serviced by regular public transport to the city centre. The city’s architecture represents one of the high points of Victorian achievement. The modern city is a major centre of banking, commerce and manufacturing. It has a highly cosmopolitan atmosphere and its cultural life is internationally renowned.

There are three outstanding professional theatre companies, the halls of the Hallé and BBC Philharmonic orchestras, the Cornerhouse as well as other cinemas, and Europe’s fastest-growing Chinatown. On the way into the city, there is perhaps the best stretch of road in the entire country for Indian and Pakistani food, known as the curry mile in Rusholme.

Amongst developments enriching the area’s cultural life have been: the opening of the Lowry Centre and Media City at Salford Quays; the opening of the Bridgewater Concert Hall; the refurbishment of the City Art Gallery; the opening of Urbis in the centre of Manchester and of the Imperial War Museum North, designed by Daniel Libeskind, in Trafford.

Trafford, specifically Old Trafford, is known internationally for sport: it is a venue for Test cricket and the home of Manchester United FC. The Commonwealth Games were held in Manchester in 2002 and were highly acclaimed. The Commonwealth Stadium became the home of Manchester City FC in 2003.

Housing is varied, plentiful and the price ranges can start moderately priced and are as varied as the requirements.

Schooling ranges from world-famous private schools to excellent sixth-form colleges and comprehensives.

Manchester is well served by a major international airport, with direct scheduled flights to many destinations in Europe as well as North America and Asia. Manchester Piccadilly railway station has been refurbished and is served by inter-city and other train services – with a direct link to Manchester Airport. The expanding network of Metrolink tram services offers an alternative mode of public transport from certain parts of the conurbation and is currently being expanded to include connections near to the Institute. Some of the most beautiful countryside in Europe is just short of an hour’s drive from the Institute in the Peak District National Park, while the Lake District and Snowdonia are also within easy reach.

Manchester offers extensive provision for research. Library facilities include the John Rylands University Library (the major library in the North West and the third largest in the country) and the Manchester Central Reference Library. Facilities for quantitative analysis are provided by Manchester Computing and the Computer Support Unit.
ADDITIONAL RECRUITMENT AND SELECTION PARTICULARS:

Shortlisted Candidates:

1. We will reimburse reasonable travel expenses. You need to retain all your receipts as you will need to submit these with your expense claim form. This form will be given to you when you attend your interview.

2. If candidates require accommodation the Institute can arrange this for you. Please notify the Human Resources Department as soon as possible so that this can be arranged on 0161 306 0840 or email: jobs@cruk.manchester.ac.uk. Please note that reimbursement for accommodation may **not** apply.

3. If candidates have any additional support needs to enable them to attend an interview they will be able to request/discuss this with the HR department when arranging the interview.

4. Shortlisted candidates may be expected to complete a presentation as part of the selection process. Information regarding the duration and title of the presentation will be provided in the invitation to interview correspondence. We supply both laptop and projector for presentations.

5. All dates and times stated in correspondence from the Institute refer to **UK GMT** (Greenwich Mean Time).

6. Candidates need to bring along their passport to interview, (a copy of which will be taken for our records) and where applicable, your visa, when you visit the Institute. If candidates have difficulty in producing their passport, please contact the Human Resources Department prior to the interview on 0161 306 0840 who will be able to advise you.

7. All shortlisted candidates will be requested to complete a Rehabilitation of Offenders/ Criminal Records declaration form at this stage of the recruitment and selection process. Please note: a criminal record will not necessarily be a bar to obtaining a position.

8. **Skype interview with presentation:**
   Instances may arise when it may not be possible for candidates to travel to the Institute to attend the interview on the given date. In this circumstance, a Skype interview may be used as the first stage of the selection process. The criteria will be consistent with all other candidates. If successful following the Skype interview, candidates will be invited to visit the Institute at a later date. Further information will be provided at that time. 24 hour prior to the interview we will require:
   - A copy of the presentation emailed to jobs@cruk.manchester.ac.uk Skype name
   - A contact telephone number
9. **Telephone conference with presentation:**
   As above, instances may arise when it may not be possible for candidates to travel to the Institute to attend the interview on the given date. In this circumstance, and if a Skype interview is not possible, then a telephone conference interview will be arranged as the first stage of the selection process. The criteria will be consistent with all other candidates. 24 hour prior to the interview we will require:

   ♦ A copy of the presentation emailed to jobs@cruk.manchester.ac.uk
   ♦ A contact telephone number
POSTDOCTORAL SCIENTIST TERMS AND CONDITIONS

The following is a basic summary of the standard terms and conditions applicable to the post you have applied for:

• The Postdoctoral Scientist grade is on a Cancer Research UK salary. Starting salary is £30,000 – £39,800 per annum, dependent upon experience and qualifications.

  Individuals’ pending their formal PhD qualification will be placed on a salary of £30,000. Once their PhD has been awarded, the individual will revert to the appropriate Postdoctoral Scientist salary (once evidence has been provided to the Human Resources Department).

• Your employment will be with The University of Manchester appointed under The Cancer Research UK Manchester Institute terms and conditions.

• Salary is paid monthly.

• There are 32 days holiday per year plus Bank Holidays for England.

• The duration of the contract: the post is for 3 years in duration however due to funding the latest end date of this post must be 30th June 2021.

• 37 hour week.

• There is a probationary period attached to this post of 8 months. It’s standard for many organisations now and consists of two 4-monthly reviews with your line manager.

• You are eligible to join the USS pension scheme.

• Any offer made by the Cancer Research UK Manchester Institute would require the successful candidate to undergo a medical clearance. This is arranged with Occupational Health department at the University of Manchester prior to starting employment and consists of a basic medical. This is to address and gain clearance for any potential hazards identified for the role on offer.

• Offer is subject to receipt of three satisfactory references and proof of your highest qualification.

• The successful candidate is required to have submitted their thesis prior to their start date. Confirmation from their educational institution will be required by the Institute’s Human Resources Department prior to commencing employment.

• Offer is subject to documented evidence of your right to work in the UK under the Home Office UK Border Agency Regulations.

• The appointment will be subject to a satisfactory pre-employment security check.
• The Institute is promoting a green travel plan and there are staff benefits promoting this including a cycle to work scheme and the use of public transport. There are strong links to bus routes, train and tram lines. Please note: that there are car parking restrictions imposed around the site.

• There are a range of staff benefits. If you require further information at this stage please contact HR department directly.