



Higher Scientific Officer - Assay development and compound profiling Candidate Information

November 2022

The Institute of Cancer Research

About the Role

We are seeking a highly motivated scientist keen to apply small molecule screening science expertise to help progress our cancer drug discovery projects from assay development and hit finding to candidate selection. The successful candidate will develop and run plate-based biochemical and/or cellular screening assays to support the identification and characterisation of small-molecule inhibitors against novel cancer targets using a variety of detection technologies. The successful candidate will be embedded in the Hit Discovery and Structural Design Team but work with multidisciplinary teams.

Key requirements for the role are significant and broad all-round laboratory experience monitoring small molecule binding and function applied to drug discovery. A good understanding of enzymology would be beneficial, as would prior use of automation equipment for liquid and compound handling used in compound profiling.

About our Centre

The Centre for Cancer Drug Discovery (CCDD) within the Division of Cancer Therapeutics, is a multidisciplinary 'bench to bedside' centre, comprising around 160 staff dedicated to the discovery and development of novel therapeutics for the treatment of cancer. The CCDD's exciting goal is to discover high quality small molecule drug candidates and to progress these to clinical trial. Our world-class biologists, chemists and drug metabolism specialists work together focusing on new molecular targets emerging from human genome and ground-breaking cell biology research. This is an exciting and fast-moving area of cancer research and offers the opportunity to work within a multi-disciplinary environment using state-of-the-art techniques and equipment.

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About our team

The Hit Discovery and Structural Design Team uses biochemical, cellular and biophysical assays to perform small-molecule high-throughput screening and fragment-based hit discovery, coupled with X-ray crystallography and electron microscopy to enable structure-based drug design within the CCDD. These methodologies are underpinned by state-of-the-art protein expression, purification and characterisation capabilities, allowing for the generation of large quantities of high-quality protein targets.

We are based at the ICR Sutton site in the newly opened CCDD building. Pertinent to this role, the team is equipped with high quality tissue culture suites and specialist screening equipment enabling access to numerous technology readouts. Our multimode plate readers include two Pherastars (BMG) and two Envisions (Perkin Elmer). Our biophysical technologies available include DSF/TSA (Nanotemper Prometheus & Biorad 384 well thermal cyclers) and SPR (GE Healthcare T200 & 8K Biacores). The team has access to high content screening microscopes (GE Incell 2200), whole well imaging cytometers (2 Nexcelom Celigos) and live cell imaging instruments (Sartorius Incucyte Zoom and S3). To enable fast and accurate assay preparation, the team possesses a broad range of liquid handling equipment, including pipetting robots and two Beckman ECHO acoustic dispensing machines integrated onto Access systems for compound dispensing.

You will be joining a team working at the crossroads of the drug discovery activities of the CCDD, where scientific excellence and team science are core values. This position will also offer training in new techniques and support will be available for attending training courses and appropriate academic meetings.

About our organisation

We are one of the world's most influential cancer research institutes with an outstanding record of achievement dating back more than 100 years. We are world leaders in identifying cancer genes, discovering cancer drugs and developing precision radiotherapy. Together with our hospital partner The Royal Marsden, we are rated in the top four centres for cancer research and treatment worldwide.

As well as being a world-class institute, we are a college of the University of London. We were rated second in the UK among all higher education institutions in the REF 2021 analysis

We have charitable status and rely on support from partner organisations, charities, donors and the general public.

We have more than 1000 staff and postgraduate students across three sites – in Chelsea and Sutton.

Our mission is to make the discoveries that defeat cancer.

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Job description

Department / division: Centre for Cancer Drug Discovery/Division of Cancer Therapeutics

Pay grade / staff group: Higher Scientific Officer

Hours / duration: Full time (35 hours per week), Monday to Friday. Fixed term contract for 2 years

Reports to: Dr Rosemary Burke

Main purpose of the job: The main objective of this post is to provide screening science expertise to develop and run biochemical and cell-based screening assays for hit identification, characterisation and optimisation for small molecule drug discovery projects within the CCDD. The post holder will work closely with other biologists and chemists involved in the projects as part of a multidisciplinary team to progress the targets from hit finding to clinical candidate

KEY DUTIES & RESPONSIBILITIES

Using literature to select appropriate methodologies for monitoring function or protein:protein interactions of novel cancer targets in biochemical or cellular assay systems

Sourcing reagents and developing appropriate robust plate based biochemical and/or cellular assays for screening compounds to identify and characterise small molecule inhibitors

Running a variety of plate-based biochemical or cellular assays for testing project compounds to confirm their inhibitory activity or target engagement using automated liquid handling equipment

Leading on high throughput screening campaigns for hit finding

Using automated data analysis software to analyse screening data and presenting it to the project teams.

Performing cellular and/or biochemical experiments to investigate the mechanism of action and/or the kinetics of reaction of test compounds, using appropriate technologies and readouts.

For cellular assay work, maintaining cell lines and performing genetic manipulations as appropriate.

Performing molecular biology for reagent generation as required

Working in a flexible, but organised manner to meet the objectives and deadlines for the project.

Ensuring that experimental data is recorded in our electronic notebook system and the key results are transferred to our Dotmatics project databases.

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Preparation of reports of results for oral or written presentations at internal meetings and for publication in scientific journals or patents.

GENERAL DUTIES

Ensure that work carried out conforms to the requirements of COSHH, ACGM, local rules and codes of practice as required by The ICR safety policy.

Become familiar with the principles, use and maintenance of our laboratory equipment.

Contribute to the day-to-day running of the lab, with responsibility for specific areas.

Communicate effectively with other members of the group, project teams and collaborating organisations/vendors as required.

Initiate purchase of consumables and minor equipment within budgetary limits.

General

All staff must ensure that they familiarise themselves with and adhere to any ICR policies that are relevant to their work and that all personal and sensitive personal data is treated with the utmost confidentiality and in line with the General Data Protection Regulations.

Any other duties that are consistent with the nature and grade of the post that may be required.

To work in accordance with the ICR's Values.

To promote a safe, healthy and fair environment for people to work, where bullying and harassment will not be tolerated.

This job description is a reflection of the present position and is subject to review and alteration in detail and emphasis in the light of future changes or development.

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Person specification

Education and Knowledge

BSc in biochemistry, molecular biology, cell biology or similar.	Essential
MSc or PhD in biochemistry, molecular biology, cell biology or similar.	Desirable
Detailed knowledge of contemporary small molecule screening methodologies applied to early-stage drug discovery	Essential

Skills

Good communication skills and the ability to interact effectively with other team members.	Essential
Good observation skills, attention to detail and ability to keep appropriate records.	Essential
Ability to work independently and to demonstrate initiative in planning and designing experiments.	Essential
Proven ability to organise and prioritise workload to meet deadlines.	Essential
Ability to prepare scientific reports and present data at regular project meetings.	Essential
Computer literate with ability to use e.g. MS Office, web-based tools and databases.	Essential
Highly self-motivated and enthusiastic, with a keen desire to produce high quality scientific data.	Essential
Willingness to learn new techniques/approaches.	Essential
Ability to contribute to team/project aims.	Essential

Experience

Significant postgraduate practical experience of working in a research laboratory setting.	Essential
Demonstrable experience and knowledge of contemporary plate-based small molecule screening technologies for biochemical and/or cellular assays	Essential
Demonstrable experience of mammalian culture and genetic manipulation using plasmid and/or lentiviral DNA.	Desirable
Demonstrable knowledge of molecular biology techniques to manipulate DNA/RNA.	Desirable
Experience of small molecule compound handling and high throughput screening	Desirable
Experience with the use of automation equipment	Desirable
Experience using automated data analysis software such as Dotmatics	Desirable

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Benefits

We offer a fantastic working environment, great opportunities for career development and the chance to make a real difference to defeat cancer. We aim to recruit and develop the best – the most outstanding scientists and clinicians, and the most talented professional and administrative staff.

The annual leave entitlement for full time employees is 28 days per annum on joining. This will increase by a further day after 2 years' and 5 years' service.

Staff membership to the Universities Superannuation Scheme (USS) is available. The USS is a defined benefit scheme and provides a highly competitive pension scheme with robust benefits. The rate of contributions is determined by USS and details of the costs and benefits of this scheme can be found on their website. If staff are transferring from the NHS, they can opt to remain members of the NHS Pension Scheme.

We offer a range of family friendly benefits such as flexible working, a parents' group, and a maternity mentoring scheme. Other great benefits include interest free loans for discounted season tickets for travel and bicycle purchases, access to the NHS discounts website, a free and confidential Employee Assistance Programme which offers a range of well-being, financial and legal advice services, two staff restaurants, and access to a gym and sporting facilities at our Sutton site.

Further information

You may contact Dr Rosemary Burke for further information by emailing Rosemary.Burke@icr.ac.uk. This job description is a reflection of the current position and is subject to review and alteration in detail and emphasis in the light of future changes or development. **Please DO NOT send your application to Dr Rosemary Burke, but apply via the e-recruitment system on our website www.icr.ac.uk.**

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Our values

The ICR has a highly skilled and committed workforce, with a wide variety of roles, each requiring different skills. But whether you work as a researcher, or work as part of our corporate team, your work and behaviour is underpinned by these six values. They are what bring us together as one team - as 'One ICR'.



Pursuing excellence

We aspire to excellence in everything we do, and aim to be leaders in our field.



Acting with Integrity

We promote an open and honest environment that gives credit and acknowledges mistakes, so that our actions stand up to scrutiny.



Valuing all our people

We value the contribution of all our people, help them reach their full potential, and treat everyone with kindness and respect.



Working together

We collaborate with colleagues and partners to bring together different skills, resources and perspectives.



Leading innovation

We do things differently in ways that no one else has done before, and share the expertise and learning we gain.



Making a difference

We all play our part, doing a little bit more, a little bit better, to help improve the lives of people with cancer.



Our values set out how each of us at the ICR, works together to meet our mission – to make the discoveries that defeat cancer. They summarise our desired behaviours, attitudes and culture – how we value one another and how we take pride in the work we do, to deliver impact for people with cancer and their loved ones.”
Professor Kristian Helin Chief Executive