Job title	Postdoctoral Researcher – Helicase Drug Discovery
Division	Medical Sciences
Department	Nuffield Department of Medicine
Location	Centre for Medicines Discovery, NDM Research Building, Old Road Campus, Roosevelt Drive, Headington, Oxford, OX3 7FZ
Grade and salary	Grade 7: £36,024 - £44,263 with a discretionary range to £48,350 p.a.
Hours	Full time
Contract type	Fixed-term contract until 27 February 2026 Funding is provided by AstraZeneca
Reporting to	Joseph Newman, Group Leader
Vacancy reference	171688

Additional information	This role meets the eligibility requirements for a Skilled Worker Certificate of Sponsorship or a Global Talent Visa under UK Visas and Immigration legislation. Therefore, the Nuffield Department of Medicine welcomes applications from international applicants who require a visa.
About us	• University of Oxford - www.ox.ac.uk/about/organisation • Nuffield Department of Medicine (NDM) - https://www.ndm.ox.ac.uk • Unit - https://www.cmd.ox.ac.uk
What we offer	https://hr.admin.ox.ac.uk/staff-benefits • An excellent contributory pension scheme • 38 days annual leave • A comprehensive range of childcare services • Family leave schemes • Cycle loan scheme • Discounted bus travel and Season Ticket travel loans • Membership to a variety of social and sports clubs • A welcoming and diverse community

The role

We are seeking candidates for a Postdoctoral Researcher position in the Centre for Medicines Discovery. The Centre for Medicines Discovery is a multi-disciplinary Institute within the University of Oxford's Nuffield Department of Medicine which focuses upon translational activities to catalyse the discovery and development of new medicines for patients.

We have an opportunity for a Postdoctoral Researcher to join the group of Dr Joseph Newman investigating the structure and function of human helicases with a view to developing novel first-in-class inhibitors with relevance in oncology. You will collaborate with industry scientists within AstraZeneca and take the lead in advancing initial fragment hits to potent compounds by closely collaborating with computational and medicinal chemists and guide the elaboration process through crystallographic and biophysical analysis. We intend to use X-ray fragment screening to identify new starting points for design of small molecule helicase inhibitors and the candidate will have the opportunity to gain experience in fragment-based drug discovery and biophysical characterization of small molecule binding.

It is essential that you hold a PhD/DPhil (or close to completion) in protein crystallography/structural biology or a related subject together with experience in recombinant protein expression, protein biochemistry, biochemical and cellular assays. You will have experience in protein production using bacteria, insect cells and mammalian expression systems. You will be able to manage your own research with an eye for detail, and take responsibility for administrative activities such as management of lab reagent stock and lab book writing. After learning the core techniques, you will be expected to drive the optimisation and development of research methods, and to help in tutoring new students and members of staff in your areas of expertise. This is an exciting opportunity for an enthusiastic scientist who wants to drive research into novel cancer therapeutics with the potential to impact human health.

Responsibilities

You will:

- Express and purify human helicase proteins for assay development and X-ray crystallography and Cryo-electron microscopy.
- Structurally characterise new proteins, develop biochemical (enzymatic) and biophysical assays, perform fragment screens. Research the mechanism of action of novel therapeutic chemistries.
- Provide compound bound protein structures to guide structure-based drug discovery. Develop biochemical and biophysical assays to validate hit molecules from fragment screening.
- Manage own academic research on a small number of helicase targets concurrently and administrative activities, such as data entry into electronic lab notebooks.
- Execute bench level experiments with the expectation that you will be able to write protocols, contribute to the design of experimental plans and develop new scientific techniques.
- Carefully analyse data, make detailed experimental observations and communicate critical input on experimental designs.
- Contribute ideas for new research projects, develop ideas for generating research income, and present detailed research proposals to senior researchers.
- Possess excellent interpersonal, oral and written communication skills. Contribute to writing of scientific reports, journal articles and the presentation of data at scientific conferences.
- Act as a source of information and advice to other members of the group.
- Participate in and support the public engagement and widening access activities of the Department and the University. This is anticipated to be not more than 2 days per year.

- Undertake mandatory training as required by the University, Division and Department. The specific list of training courses may change from time-to-time, in response to both legal and internal University requirements.

Selection criteria

Essential

- Hold a PhD/DPhil (or close to completion) in protein crystallography/structural biology, or a related subject.
- Experience in protein production using bacteria, insect cells and mammalian expression systems.
- Experience of biochemical and/or biophysical assays and laboratory.
- Ability to manage own research and take responsibility for administrative activities such as management of lab reagent stock and lab book writing.
- Reliable and well organised, showing attention to detail.
- Good team-working skills and able to collaborate effectively within a team.
- Excellent communication skills, including the ability to write text that can be published, present data at conferences, and represent the research group at meetings.

Desirable

- Experience in Helicase biology or DNA repair field.
- Experience of drug discovery.
- Experience of actively collaborating in the development of research articles for publication.

Pre-employment screening

Standard checks

If you are offered the post, the offer will be subject to standard pre-employment checks. You will be asked to provide: proof of your right-to-work in the UK; proof of your identity; and (if we haven't done so already) we will contact the referees you have nominated. You will also be asked to complete a health declaration so that you can tell us about any health conditions or disabilities for which you may need us to make appropriate adjustments.

Please read the candidate notes on the University's pre-employment screening procedures at: https://www.jobs.ox.ac.uk/pre-employment-checks

Hazard-specific / Safety-critical duties

This job includes hazards or safety-critical activities. If you are offered the post, you will be asked to complete a health questionnaire which will be assessed by our Occupational Health Service, and the offer of employment will be subject a successful outcome of this assessment.

The hazards or safety-critical duties involved are as follows:

- Travel outside of Europe or North America on University Business

How to apply

Applications are made through our e-recruitment system and you will find all the information you need about how to apply on our Jobs website https://www.jobs.ox.ac.uk/how-to-apply.

If you would like to apply, **click on the Apply Now button** on the 'Job Details' page and follow the on-screen instructions to register as a new user or log-in if you have applied previously.

As part of your application you will be asked to provide details of two referees and indicate whether we can contact them now. You will be asked to upload a CV and a supporting statement. The supporting statement must explain how you meet each of the selection criteria for the post using examples of your skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependants). Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

Please upload all documents **as PDF files** with your name and the document type in the filename. Please note using a long file name may prevent you from uploading your documents.

- http://www.ox.ac.uk/about_the_university/jobs/research/

All applications must be received by **midday** UK time on the closing date stated in the online advertisement

Information for priority candidates

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing department(s).

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments).

If you need help

Application FAQs, including technical troubleshooting advice is available at: https://staff.web.ox.ac.uk/recruitment-support-faqs. Non-technical questions about this job should be addressed to the recruiting department directly recruitment@ndm.ox.ac.uk

To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

Please note that you will receive an automated email from our online recruitment portal to confirm receipt of your application. **Please check your spam/junk mail** if you do not receive this email.
Important information for candidates

Data Privacy

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation. For further information, please see the University's Privacy Notice for Job Applicants at: https://compliance.admin.ox.ac.uk/job-applicant-privacy-policy. The University's Policy on Data Protection is available at: https://compliance.admin.ox.ac.uk/data-protection-policy.

The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for very senior research posts at **grade RSIV/D35 and clinical equivalents E62 and E82**, which with effect from 1 October 2023 will be 30 September before the 70th birthday. The justification for this is explained at: https://hr.admin.ox.ac.uk/the-ejra.

For **existing** employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: https://hr.admin.ox.ac.uk/the-ejra.

There is no normal or fixed age at which staff in posts at other grades have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

Equality of opportunity

Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. No applicant or member of staff shall be discriminated against because of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.