

Junior Biochemist

Seren Llewellyn



EXPERIENCE

Summer Research Placement Student, Wellcome Sanger Institute, Hinxton, Cambridge *Jun 2024 – Aug 2024*

10 week placement in the Cellular Genetics programme, working on a project characterising novel protein interactions in immune cell signalling.

- Cloned **8 gene constructs** into bacterial and mammalian expression vectors using Gibson Assembly and restriction enzyme cloning
- Performed **120+ protein purifications** using Ni-NTA affinity chromatography and size exclusion chromatography
- Optimised an ELISA protocol that improved signal to noise ratio by **40%**, adopted by 3 other researchers in the group
- Maintained **6 mammalian cell lines** (HEK293T, Jurkat, THP-1) across 45 passages in a Class II biosafety cabinet

Part Time Laboratory Technician, University of Bristol, School of Biochemistry, Bristol *Oct 2024 – Jun 2025*

Assisted academic staff with teaching lab preparation and research support during final year.

- Prepared reagents, buffers, and gel casting materials for **28 undergraduate practical sessions**
- Ran **15 SDS-PAGE gels** and **8 Western blots** per week to support a postdoc's research project on autophagy
- Managed chemical inventory for a lab of **12 researchers**, processing 40+ orders per term

CERTIFICATIONS

Biochemical Society Student Member, Biochemical Society *Jan 2023*

PROJECTS

Final Year Project: Characterising a Novel TRIM Protein in Innate Immune Signalling *Oct 2024 – Apr 2025*

Investigated the role of a newly identified TRIM family protein in NF- κ B signalling using overexpression and knockdown approaches in HEK293T cells.

- Performed **48 transfection experiments** and analysed NF- κ B reporter activity across 6 conditions
- Showed that overexpression of the target protein increased NF- κ B activation by **2.8 fold** ($p < 0.001$)
- Generated **3 stable cell lines** using lentiviral transduction for future studies
- Presented findings at the Bristol Biochemistry Research Day to **80+ staff and students**

EXTRA CURRICULAR ACTIVITY

Outreach Volunteer, Bristol Science Festival *Sep 2023 – Sep 2024*

Ran hands on DNA extraction workshops for school groups aged 11 to 14. Delivered 6 sessions to a total of 180 students over 2 festival weekends.

PROFILE

Biochemistry graduate from the University of Bristol with research placement experience at the Wellcome Sanger Institute. Performed 120+ protein purifications and optimised an ELISA protocol that improved signal to noise ratio by 40%. Skilled in Western blot, SDS-PAGE, molecular cloning, and mammalian cell culture. Seeking a junior biochemist position in biotech or pharmaceutical research.

EDUCATION

BSc (Hons) in Biochemistry

University of Bristol, Bristol

Sep 2022 – Jun 2025

SKILLS

- Western Blot & SDS-PAGE
- ELISA (direct, sandwich, competitive)
- Molecular Cloning (Gibson Assembly, restriction digest)
- Protein Purification (Ni-NTA, SEC, IEX)
- Mammalian Cell Culture (HEK293T, Jurkat, THP-1)
- PCR, qPCR, and Gel Electrophoresis
- GraphPad Prism & ImageJ
- SnapGene & Benchling
- Aseptic Technique (Class II BSC)
- COSHH Risk Assessment & Lab Safety

LANGUAGES

- English (native)
- Welsh (conversational)

REFERENCES

Dr. Hannah Sheringham

Group Leader, Cellular Genetics, Wellcome Sanger Institute, h.sheringham@sanger.ac.uk, +44 7700 900 662

Dr. Mark Sheridan

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