University of Leicester
AIM studentship project 2026

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Name of non-academic partner organisation: Nonacus Ltd, Birmingham

Section 2 – *Project Information*

Project Title	Targeting P2X4 receptor: novel mechanisms key to prostate cancer progression and metastasis

Project Summary

Want to make a real impact in the fight against cancer? Join a cutting-edge PhD programme that integrates discovery science, advanced technologies, and industry collaboration to address one of the UK's biggest health challenges.

We are offering a fully funded 4-year MRC AIM DTP PhD studentship investigating the ATP-gated ion channel P2X4 receptor (P2X4R) in prostate cancer (PCa). PCa is the most common male cancer in the UK and, once metastatic, remains a major cause of mortality. Our findings suggest that P2X4R may act as both a driver of metastasis and a valuable biomarker, opening new opportunities for predicting and treating aggressive disease.

As part of an exciting collaboration between the Universities of Leicester and Birmingham, you'll receive hands-on training in patient explant culturing, spatial multiplex imaging, next generation sequencing, liquid biopsy approaches (EV/cfDNA profiling), and bioinformatics skills. You'll also benefit from a placement with Nonacus Ltd, an innovative diagnostics company, building unique experience across academia, industry, and clinical translation.

References

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4. He, Y.; Xu, W.; Xiao, Y.T.; Huang, H.; Gu, D.; Ren, S. Targeting signaling pathways in prostate cancer: mechanisms and clinical trials. *Signal Transduct Target Ther* **2022**, *7*, 198, doi:10.1038/s41392-022-01042-7.
5. Maynard, J.P.; Lu, J.; Vidal, I.; Hicks, J.; Mummert, L.; Ali, T.; Kempski, R.; Carter, A.M.; Sosa, R.Y.; Peiffer, L.B.; et al. P2X4 purinergic receptors offer a therapeutic target for aggressive prostate cancer. *J Pathol* **2022**, *256*, 149-163, doi:10.1002/path.5815.