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# Pathios therapeutics receives Ã?Â£350K funding reward from Innovate UK

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**Pathios Therapeutics will team up with researchers at The University of Oxford to accelerate cancer immunotherapies targeting GPR65 on immunosuppressive macrophages**



Pathios Therapeutics Limited, an innovative biotech company focused on the development of first-in-class therapies for cancer, announced that it has been awarded £350K (approximately US$475K) in the form of a Smart Grant from Innovate UK, the UK Government's innovation agency, to accelerate their cancer immunotherapy programme targeting the innate immune checkpoint, GPR65. Pathios will collaborate on this project with researchers from the Department of Oncology at The University of Oxford to develop the key tools required to enable the rapid translation of small-molecule GPR65 inhibitors for treatment-resistant melanoma.

The advent of immunotherapy agents targeting T-cell checkpoints (PD-1/CTLA-4) has brought about significant improvements in the long-term survival of many melanoma patients. However, only a subset of patients receive sustained benefit from these treatments and it remains an ongoing challenge to identify additional therapies for the remaining non-responsive population.

Recent ground-breaking science suggests a key reason that some melanoma patients that do not respond well to anti-PD-1 therapies relates to the disarming of innate immune cells called tumour-associated macrophages (TAMs) by the acidic microenvironment that is inherent to advanced tumours. Activation of the pH-sensing receptor, GPR65, on TAMs by acidic pH leads to the suppression of a host of pro-inflammatory genes thereby shifting the characteristics of these cells from immune-stimulating to immunosuppressive. The importance of the GPR65 pathway in cancer is underscored by a small proportion of the population with inactivating polymorphisms showing stratified association with survival when analysed in The Cancer Genome Atlas (TCGA). Pathios' 'Macrophage Conditioning' approach aims to deploy small-molecule GPR65 inhibitors to reverse pH-dependent immunosuppressive signalling in the vast majority of patients who do not carry this genetic change.

With this grant, Pathios will develop a range of tools to expedite the translation of small molecule GPR65 inhibitors for use in cancer immunotherapy. This will include the development of early clinical target engagement biomarkers as well as employing a range of bioinformatics techniques to identify those patients most likely to benefit from Pathios' GPR65-targeted approach.

Stuart Hughes, Chief Executive Officer of Pathios: "We are delighted to have secured this highly competitive funding from Innovate UK to accelerate our programme against GPR65 and to continue to build our scientific links with cancer researchers at The University of Oxford. This award boosts our ongoing programme and is a significant endorsement of our novel

approach to targeting the innate immune system in hard-to-treat cancers. We look forward to developing the tools that will drive forward our GPR65-based ‘Macrophage Conditioning’ technology and help deliver on the company’s goal to provide a first-in-class treatment approach for those melanoma patients who currently have limited treatment options"