

30 January 2025

Physiomics plc  
("Physiomics" or the "Company")

Publication of Peer Reviewed Article

Physiomics plc (AIM: PYC), a leading mathematical modelling, data science and biostatistics company supporting the development of new therapeutics and personalised medicine solutions, is pleased to announce the joint online publication in collaboration with Merck KGaA entitled 'Semi-mechanistic efficacy model for PARP + ATR inhibitors - application to rucaparib and talazoparib in combination with gartisertib in breast cancer PDXs' in the British Journal of Cancer.

The full article can be accessed via the following link: <https://www.nature.com/articles/s41416-024-02935-w>

The development of novel effective oncology therapies is very challenging, not only from a cost perspective, but due to biological factors such as the emergence of tumour resistance and natural patient-to-patient variations that influence treatment outcomes. Combination therapies, such as those described within the paper, can offer a route to overcoming some of these biological factors and offer more successful treatments.

In contrast to developing monotherapies (single drug therapies), the development of combination therapies creates additional complexity to the development process as a larger number of possible experimental permutations need to be explored. If all these permutations were to be explored within preclinical or clinical settings, the additional cost and time required would become prohibitive. Physiomics addresses this challenge by offering prediction services that can be used to understand how these novel therapeutics might perform in the clinic, enabling a way to focus in on the most effective experimental permutations to explore, thus accelerating and derisking the drug development process.

In this publication, a mathematical model was developed to explore these different experimental permutations (doses and schedules) for combination therapies. Using Physiomics' proprietary 'Virtual Tumour' platform, the model provided a single, readily interpretable readout of tumour growth inhibition (TGI). It was also able to assess the variation in treatment response of novel drug combinations at various doses, and therefore could be used to inform clinical trial protocol design.

This joint publication with Physiomics' long-standing client, Merck KGaA, demonstrates the impact of the Company's Virtual Tumour platform in supporting the development of novel Oncology Therapies. Physiomics provides expertise in using modelling and simulation approaches to accelerate the development of innovative therapies across a range of therapeutic areas and across the entire drug development pathway, including early discovery and development.

**Dr Peter Sargent, CEO, commented:**

*"We are thrilled to be able to announce this peer-reviewed publication. This is the second publication we've announced this month, highlighting the utility and benefit of our Virtual Tumour Model in supporting oncology drug development. The work described within the publication is testament to our continued relationship with Merck KGaA, a relationship established over 12 years ago and spanning over 30 contracts."*

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**Notes to Editor****About Physiomics**

Physiomics plc combines expertise across Modelling & Simulation, Biostatistics, Data Science and Bioinformatics, together with deep biology expertise, to help biotech and pharma companies streamline their drug development journeys. Our approach is to help derive insight from all relevant and often disparate data in order to de-risk decision making and optimise research design across discovery, pre-clinical and clinical studies. Through use of cutting-edge computational tools, bespoke models and our proprietary Virtual Tumour technology, the Physiomics team has informed the development of over 100 commercial projects, with over 125 targets and drugs modelled. Clients include Merck KGaA, Astellas, Bicycle Therapeutics, Numab Therapeutics & CRUK.

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