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Season 4

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AI points to better and n

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By **Susan Robertson** on 18th January 2024

A new AI tool used to predict when cancer will resist chemotherapy could pave the way for pioneering new treatments, a study published today suggests.

Scientists at the University of California San Diego School of Medicine employed a machine learning algorithm to look at how tumours react to drugs.

Leveraging its model to investigate cervical cancer, where around 35% of tumours fail to respond to treatment, the team successfully identified when tumours would respond to treatments. It is a major breakthrough because DNA replication, part of normal cell division, is complex with most chemotherapies disrupting the mechanisms.

“Hundreds of proteins work together in complex arrangements to replicate DNA,” said Trey Ideker, PhD, professor in Department of Medicine at UC San Diego of Medicine. “Mutations in any one part of this system can change how the entire tumour responds to chemotherapy.”

As well as forecasting responses to treatment the model also lets scientists understand the decision-making underpinning the predictions.

“Unraveling an AI model’s decision-making process is crucial, sometimes as important as the prediction itself,” adds Ideker. “We’re optimistic that our model will have broad applications in not only enhancing current cancer treatment, but also in pioneering new ones.”

The study was published today in *Cancer Discovery*.

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In this article: AI, cancer, chemotherapy, featured

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Written By **Susan Robertson**

Susan is the co-founder of Innovators Magazine and a consultant for OnePoint5Media. Susan is also a member of the UNFCCC-led Resilience Frontiers Nexus group and the Chair of the APOPO Foundation UK board.

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