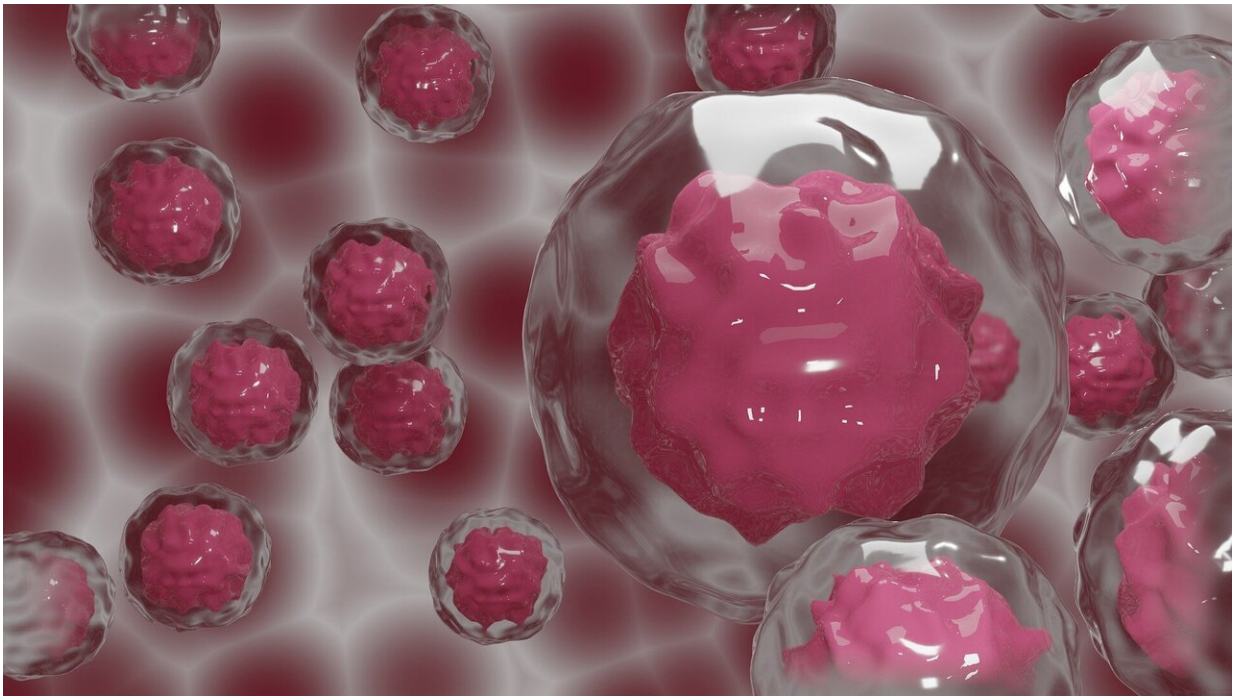
Pioneering cancer technology could deliver more precise treatment

June 4 2020



Credit: CC0 Public Domain

Cancer patients could be spared needless gruelling treatment thanks to the development of pioneering technology which allows therapies to be personalised for individual patients.

Strathclyde prospective spin-out company, ScreenIn3D Ltd, based in the Technology and Innovation Centre, has developed a lab-on-a-chip

platform called ONCO-Chip3D, which is designed to make cancer treatments much more precise.

Precision medicine already allows doctors to select treatments most likely to help patients based on a genetic understanding of their disease. But ScreenIn3D's technology allows further improvements of therapy selection based on testing tissue samples which are taken from the patient's tumour.

The platform is based on microfluidic technology, which enables the miniaturisation of cell-based tests through precise control of fluids and particles transport in very small amounts

ONCO-Chip3D allows several drugs and treatment combinations to be tested at the same time on micro-tumours developed from the patient biopsy. The platform allows researchers to carry out up to 100 times more testing on biopsy tissue than existing technologies, which can result in a more efficient and effective screening and treatment process.

Importantly, results can be delivered within a week from biopsy collection, allowing quick treatment selection for the patient.

Dr. Michele Zagnoni, chief scientific officer at ScreenIn3D and reader in the Department of Electronic and Electrical Engineering at Strathclyde, said, "We are developing a technology which massively improves on the existing tests that can be done on a cancer patient's biopsy.

"Everybody and every cancer is different, but the approach that has been taken for many years when deciding a treatment is to apply a 'one-size-fits-many' to all patients.

"There is so much more that we can do to make better, more informed

decisions about what treatment to recommend. We hope to improve, and maybe remove, the 'hit and miss' element of some cancer treatments."

Provided by University of Strathclyde, Glasgow