

Breast cancer drug discovery offers hope of new treatments

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A drug for breast cancer that is more effective than existing medicines may be a step closer thanks to new research.

Scientists have identified a [chemical compound](#) that is highly effective at blocking the growth of [breast cancer](#) cells in the laboratory.

The compound - called eCF506 - targets a molecule called Src tyrosine kinase that is required for [breast cancer cells](#) to grow and spread.

Drugs that target the same molecule are already being tested in clinical trials. Researchers say eCF506 is different because it is more selective and doesn't affect other molecules in the cell.

This may mean it will be more effective and have fewer side effects than the other drugs in development but further studies are needed, researchers say.

The study identified the compound using a pioneering approach that uses imaging techniques to directly visualise the effects of candidate drugs on cells.

The team from the University of Edinburgh says the discovery proves that this approach offers a powerful and cost-effective method of discovering [new medicines](#) for cancer and other diseases.

The study, published in the *Journal of Medicinal Chemistry*, was funded

by the Medical Research Council, Wellcome Trust and the commercialisation catalyst Sunergos Innovations.

Dr Asier Unciti-Broceta, who led the study at the University's Cancer Research UK Edinburgh Centre, said: "eCF506 is the first [drug](#) candidate of a second generation of Src inhibitors that will not only help to understand the complexity of some cancers but also the development of safer combination therapies."

Professor Neil Carragher, Head of the Edinburgh Cancer Discovery Unit at the University of Edinburgh, who co-led the study, said: "This candidate drug will need to undergo further preclinical testing before it can be taken forward into [clinical trials](#) but these early findings are very promising.

"The result provides further support for our new drug discovery approach, which aims to deliver more effective medicines at reduced costs for patients and healthcare providers."

More information: Craig Fraser et al, Rapid Discovery and Structure–Activity Relationships of Pyrazolopyrimidines That Potently Suppress Breast Cancer Cell Growth via SRC Kinase Inhibition with Exceptional Selectivity over ABL Kinase, *Journal of Medicinal Chemistry* (2016). [DOI: 10.1021/acs.jmedchem.6b00065](https://doi.org/10.1021/acs.jmedchem.6b00065)

Provided by University of Edinburgh

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