

Scientists developing breast cancer treatment test

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University of Manchester scientists are developing a test that will help identify patients who will benefit from a new breast cancer treatment, thanks to a research grant worth almost £180,000 from Breast Cancer Campaign.

Doctors have begun clinical trials to test brand new [breast cancer](#) drugs called Notch inhibitors. However, there's currently no way to identify which [patients](#) will respond to these drugs prior to treatment.

Dr Keith Brennan, in the Faculty of Life Sciences, aims to change that. He said: "Researchers have discovered a key breast cancer development molecule called Notch, which can be targeted by the newly developed Notch inhibitor drugs. Unfortunately, there is no reliable way of identifying Notch in patients' tumours, which would tell us who is likely to benefit from these drugs. What is needed instead are 'surrogate' molecules which are easily detected and will indicate Notch's presence."

In the lab, Dr Brennan will study the DNA (genetic information) of breast cancer cells containing Notch and identify 'surrogate' genes activated by this molecule. He will then see if the proteins made by each of these genes can be easily detected in 20 breast tumours which are known to contain high levels of Notch.

Finally, Dr Brennan will measure the amounts of these particular 'surrogate' proteins in 450 breast tumours from people whose treatment resistance and long term survival are known. This will help to establish

whether these Notch surrogates can be used to predict how an individual patient's disease will progress and their response to Notch inhibitors.

Dr Lisa Wilde, Director of Research, Breast Cancer Campaign said, “Dr Brennan’s innovative project will take the first vital steps in developing a [test](#) to predict which people are most likely to benefit from Notch inhibitor [drug](#) treatment. This could be used to identify which patients should be included in clinical trials to assess the drugs’ effectiveness.”

Provided by University of Manchester

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