

## Thank you to the supporters of Breast Cancer Research Aid for another year of support

September 2018

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Today, twice as many people survive cancer than in the 1970s. The support of charities such as Breast Cancer Research Aid is helping us to increase that number even more.

Cancer is constantly evolving – so we're looking for new ways to stay ahead of it.

Cancer is more complex than we ever imagined. Just as every patient is different, so is their cancer – and cancer doesn't stand still. It evolves over time. As we learn to create new drugs to tackle it, so cancer learns to adapt and resist their effects. This makes some cancers incredibly difficult to treat.

But scientists here at the ICR are starting to unravel some of this complexity. Breast Cancer Research Aid is helping us to increase our understanding of how breast cancers change and evolve, sidestepping the therapies designed to halt their progress. Now we must build on this knowledge, discover smarter new drugs and trial them in combination with other therapies, to find kinder, more effective treatments for breast cancer patients.

For example, our researchers have recently identified a vulnerability in some breast cancer cells of a certain type – called triple negative breast cancer – that could be exploited by future targeted drugs. The vulnerable cells carry a genetic mutation that make them more dependent on a particular protein. We have shown in the laboratory that blocking this protein's activity kills the vulnerable cells, while sparing healthy cells without the mutation. This makes it a promising target for new treatments, which could selectively kill the cancerous cells by inhibiting the protein's activity.

Such a treatment is sorely needed, as triple negative breast cancer cells do not respond to many of the hormone therapies used for other types of breast cancer.

Other recent studies have shown that treating advanced breast cancer with three drugs instead of one could boost the effectiveness of treatment and stop tumours developing resistance. The combination of two targeted drugs and hormone therapy is better at halting the growth of breast cancer cells and tumours than any of the treatments individually. Crucially, it seems to stop breast cancers from switching to different growth strategies to evade the effects of treatment, by cutting off all their available escape routes. Our researchers are now planning to test this drug combination in a clinical trial.

We have a long history of discovery in cancer research – and we've made some great strides forward in recent years, but around a 1,000 patients still die from breast cancer each month in the UK, so there remains an urgent need to further expand our knowledge of breast cancer and how to manage it. Thank you for what you have done so far. By continuing your support, you will ensure our dedicated teams of experts can pursue their research to defeat cancer and improve the lives of breast cancer patients in the UK and worldwide.

[www.icr.ac.uk](http://www.icr.ac.uk)

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