

# New cancer strategies promising, says researcher

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Cancer cell during cell division. Credit: National Institutes of Health

Dr. Tim Fenton, an expert in cancer research at the University, says the announcement of new strategies to overcome the evolution of drug resistance in tumours could dramatically increase the effectiveness of

cancer therapies.

Dr. Fenton, of the University's School of Biosciences, commented: "The Institute of Cancer Research (ICR) initiative announced today aims to develop multiple strategies by which to overcome the evolution of drug resistance in tumours: the major challenge in developing long-lasting treatments or even cures for patients diagnosed with late-stage cancers.

"The major 'fuel' for evolution of resistance is the occurrence of mutations—[small changes](#) to our DNA sequence that can change the way in which our genes work. Occasionally such a change will allow a single tumour cell in which it occurs to survive in the presence of a drug that is otherwise highly effective, eventually resulting in the recurrence of cancer after weeks, months or sometimes years, that is now resistant to the therapy.

"One strategy announced by ICR is their programme to target APOBEC genes—these play important roles in our [immune system](#) by mutating viruses and therefore protecting us from infection. In [cancer cells](#) however, APOBEC genes frequently go rogue, mutating our own genes and therefore driving drug resistance. The ICR is developing drugs to block APOBEC activity and therefore to limit chemotherapy resistance.

"There is a long way to go but if pathways to [drug resistance](#) can be anticipated and blocked, we can expect to dramatically increase the effectiveness of cancer therapies."

Dr. Fenton and colleagues within the School of Biosciences are collaborating with the ICR to see how APOBECs go awry in tumours and are developing models in which these drugs will be developed prior to entering clinical trials in patients.

Provided by University of Kent

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