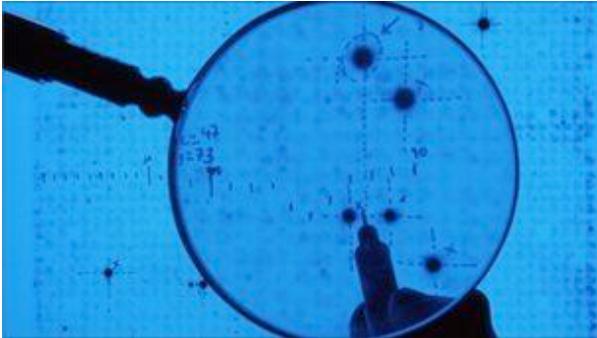


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## Key breast cancer 'driver' gene found



The researchers carried out gene research

Cancer experts have identified a gene which can cause a particularly aggressive form of breast cancer to develop.

ZNF703 is the first "oncogene" to be discovered in five years.

It is overactive in around one in 12 breast cancers, and could account for up to 4,000 UK cases a year.

Cancer Research UK, whose scientists carried out the work, said the gene was a "prime candidate" for the development of new breast cancer drugs.

An oncogene is one which would normally help instruct healthy cells to divide but if it becomes overactive, it upsets the normal checks and balances that control that process.

That damage is described as being "like a car's accelerator becoming stuck down", and the cell and all its daughter cells are permanently instructed to divide.

Her2 - another oncogene - is already tested for. The drug Herceptin was developed to treat Her2 positive breast cancers.

### Elimination

Scientists at Cancer Research UK's Cambridge Research Institute and the British Columbia Cancer Agency in Vancouver, Canada carried out the study, which is [published in EMBO Molecular Medicine](#),

They looked at gene activity in 1,172 breast tumour samples, as well as looking at breast cancer cells grown in the lab.

"This is the first gene of its kind to be discovered in breast cancer for five years"

Dr Lesley Walker, Cancer Research UK

They were able to eliminate genes until there was only the ZNF703 gene left within a region on chromosome 8 that was overactive in all the samples tested.

And in two patients studied, ZNF703 was the only gene shown to be overactive, showing it

was driving the development of the cancer.

Professor Carlos Caldas, of the Cambridge Research Institute, who led the research, said: "Scientists first discovered this region of DNA may be harbouring genes linked to the development of breast cancer 20 years ago.

"But it's only with the technology we have today that we've been able to narrow down the search sufficiently to pinpoint the gene responsible."

He added: "Crucially, testing whether this gene is overactive in a patient's tumour could help highlight those more likely to be resistant to standard hormone therapies, helping to make sure the right drugs are matched to the right patient."

Dr Lesley Walker, director of cancer information at Cancer Research UK, said: "This is the first gene of its kind to be discovered in breast cancer for five years.

"This is exciting because it's a prime candidate for the development of new breast cancer drugs designed specifically to target tumours in which this gene is overactive.

"Hopefully this will lead to more effective cancer treatments in the future."

Dr Rachel Greig, of Breakthrough Breast Cancer said the research was "a vital step in understanding the genes that drive the growth of some types of breast cancer".