

Dozens of new cancer genes found

Genome sweep shows cancer-driving mutations more common than thought.

Michael Hopkin

The range of mutations that can drive cancer growth could be much wider than thought. An international research effort called the Cancer Genome Project has identified around 120 new genes that contain mutations promoting the disease.

"This is a lot more cancer genes than we expected to find," says Michael Stratton of the Wellcome Trust's Sanger Institute in Cambridge, UK, one of the leaders of the research.

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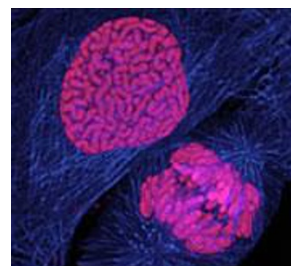
The researchers used data generated by the human genome project to sift through a family of 500 genes, called kinase genes, linked to cell growth and division. Defects in some of these genes have already been linked to cancer.

Using cell samples from 210 different types of cancer, they searched for mutations in the genes of these cells that are not present in those of non-cancerous cells. They found more than 1,000 cancer-specific mutations, of which around 150 are thought to be 'driver' genes, which trigger the rampant growth of cancer cells. The researchers report their findings in this week's *Nature*¹.

The discovery is a significant addition to the 350 genes already known to be linked to cancer, and shows that "there are many more cancer genes out there", Stratton says.

The researchers chose to look at kinase genes because of their role in cell growth, which frequently goes awry in cancer. Kinase genes make inviting targets for drug development, says Stratton's colleague Andrew Futreal, who co-led the research. "This gives us a lot more targets to think about," he says.

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Scientists have identified hundreds more genes that are active in cancer cells.

Dr David Becker/Wellcome Trust Medical Photographic Library

References

1. Greenman C., *et al.* *Nature*, 446 . 153 - 158 (2007). | [Article](#) | [PubMed](#) |