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News Release

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Genetic barcode could pave way to bespoke liver cancer therapies

Scientists have identified a biological barcode in mouse cells that could help explain how liver cancers develop in people.

Their findings could lead to the development of new personalised treatments for the disease, the team says.

Scientists sought to understand the chemical changes that take place in liver cells over time and how these changes can switch genes on or off, affecting the organ's function.

In studies in mice, scientists at the University of Edinburgh focused on a key chemical found in liver cells – known as 5hmC – that can track and identify changes in the cell's gene function, like a biological barcode.

Researchers showed for the first time how changes to this barcode can be monitored and used to predict whether a cell will become cancerous.

The team says this helps scientists to understand the chemical processes that can lead to the growth of liver cancers and may pave the way for treatments that are based on a patient's personal genetic signature.

The findings have been published in *Cancer Research*. The study was funded by the Medical Research Council and Innovative Medicine Initiative.

Dr John Thomson of the University of Edinburgh's Institute of Genetics and Molecular Medicine who led the research, said: "This study provides an additional strategy to investigate the mechanisms of cancer progression and can pave the way to the identification of new cancer drug targets."

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