

New study to combat the most common form of liver cancer

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Scientists at the University of Southampton are to investigate the best way to use natural killer cells (NK) to target the most common form of liver cancer.

[NK cells](#) are able to directly kill cancer in the body and stimulate other cells in the immune system to help attack cancer.

At the moment, NK cells, and the chemicals that manipulate them, are being used to treat a variety of different cancers, mainly cancers of the blood.

However there is growing evidence that these cells could be used to create an [immune response](#) to hepatocellular cancer (HCC) cells and be used to kill them.

HCC is the most common form of [liver cancer](#) and is mainly caused by cirrhosis of the liver – where the liver has become scarred as a result of damage over a long period of time.

Funded by the British Liver Trust, researchers at the University of Southampton will investigate how to manipulate NK cells to attack HCC cells.

The University's Salim Khakoo, Professor of [Hepatology](#) and Aymen Al-Shamkhani, Professor in Immunology will be leading the study.

Professor Khakoo explains: "Hepatocellular cancer accounts for 90 per cent of all primary liver cancers and is an extremely difficult condition to treat. At this early stage of the study we aim to create a method to form the basis for a clinical trial to use NK cells to treat HCC.

"To do this we will study patients with HCC and then use three different stimuli to activate NK cells. These different [stimuli](#) include a chemical stimulant of NK cells and antibodies that target molecules on the surface of the NK cells. By trying different combinations of these chemicals and antibodies together, we will be able to develop an optimal method to use them for [immunotherapy](#)."

When the team has developed a successful method for stimulating the NK cells, tests will be carried out to determine the best way to use them for an anti-cancer effect.

Andrew Langford, Chief Executive of the British Liver Trust commented "The British Liver Trust is delighted to fund what we hope will be invaluable research for new treatment of liver cancer. Unfortunately, of the big five killer diseases, deaths from liver cancer is the only one that continues to increase and the average age at which people die of a liver disease is now 59 and this gets lower each year; consequently, any research into new treatments offers hope that we can treat those that have liver cancer more effectively."

Provided by University of Southampton

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