Scientists uncover potential drug to tackle 'undruggable' fault in third of cancers

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Scientists have found a possible way to halt one of the most common faults in many types of cancer, according to research presented at the National Cancer Research Institute (NCRI) Cancer Conference in Liverpool today.

A team of scientists at the Max Planck Institute of Molecular Physiology in Germany has uncovered a new strategy and new potential drug to target an important signalling protein in cells called Ras, which is faulty in a third of cancers.

When the Ras protein travels from the centre of a cell to the cell membrane, it becomes 'switched on' and sends signals which tell cells to grow and divide. Faulty versions of this protein cause too many of these signals to be produced – leading to cancer.

Scientists have been attempting for decades to target Ras, but with little success. The reason the protein is so difficult to target is because it lacks an obvious spot on its surface that potential drug molecules can fit into in order to switch it off, like a key closing a lock.

But now the researchers have shown that instead of directly targeting the faulty protein itself they can stop it moving to the surface of the cell by blocking another protein which transports Ras – preventing it from triggering cancer in the first place.

By targeting a link in the chain reaction that switches on the Ras protein,

the scientists have opened opportunities to develop new treatments in the future.

Dr Herbert Waldmann at the Max Planck Institute of Molecular Physiology, said: "We've been scratching our heads for decades to find a solution to one of the oldest conundrums in cancer research. And we're excited to discover that it's actually possible to completely bypass this cancer-causing protein rather than attack it directly.

"We're making new improvements on compounds for potential drugs, although the challenge still lies in developing a treatment that exploits this discovery without ruining the workings of healthy cells."

Professor Matt Seymour, NCRI's clinical research director said: "This is an exciting approach to targeting one of the most common faults in cancer, which could lead to a new way of treating the disease. The research is still at a very early stage and it will be years before it can benefit patients but it is a key step forward in the field."

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