

Study pinpoints protein's role in cancer spread

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Edinburgh scientists have identified the way a specific cell protein can trigger the spread of cancer. The study by researchers in the Cell Signalling Unit, University of Edinburgh Cancer Research Centre could pave the way for new drugs which limit the protein's ability to turn a normal cell cancerous.

The protein, MDM2, normally functions to control the activity of a key cancer preventing protein called p53. In some of the body's cells, the biochemical ratio between MDM2 and p53 can become unbalanced causing MDM2 to act as a cancer-promoting agent.

The project's lead investigator, Dr Kathryn Ball, a researcher at the University, explains: "One way in which MDM2 controls the p53 protein is by activating its destruction and we are interested in understanding how this happens at a biochemical level.

"In the current study, funded by Cancer Research UK, we have identified protein fragments which can bind to MDM2, inhibiting its activity. These fragments could be a good template for drugs designed to hinder the role of MDM2 in the p53 destruction pathway. We hope our findings may lead to improved treatments for a broad range of cancer types."

Welcoming the findings, Professor John Toy, medical director at Cancer Research UK, said: "p53 is a crucial protein that acts as a guardian of the normal cell. Its failure to do its job properly is associated with many

types of cancer. If p53 is being destroyed by another protein in a cancer cell, then it offers an excellent target when designing new anti-cancer drugs. This research suggests MDM2 is just such a target."

The study is published in the current edition of *Molecular Cell*.

Source: University of Edinburgh

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