

'Master switch' experimental drug could treat different cancers

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(Medical Xpress) -- A unique multi-target experimental drug could treat a range of cancer types, according to research published in [Clinical Cancer Research](#) today.

Cancer Research UK-funded work at The Institute of Cancer Research in London shows that AT13148 - a type of drug called a kinase inhibitor - operates like a master switch to simultaneously block several different enzymes that control cancer cell growth and cell death.

Many kinase inhibitors have been developed that block only a single enzyme, but so far these drugs have shown only limited effectiveness. Scientists hope that switching off cell signals at multiple points could

make the drug more likely to benefit patients and also delay drug resistance.

Laboratory tests showed that AT13148 was able to kill a range of cancer cell types including sarcoma, breast and prostate.

Lead author Dr. Michelle Garrett, team leader in the Cancer Research UK Cancer Therapeutics Unit at The Institute of Cancer Research, said: "Our study shows that this drug is effective against a range of tumour types, and operates by blocking multiple targets. These promising results have led to the decision to take the drug into patient trials."

The molecule was originally discovered by scientists on the PKB [drug](#) discovery program, a collaboration between Astex Pharmaceuticals, Cancer Research Technology and The Institute of Cancer Research, which ran from 2003 through to 2006. The collaboration generated a series of compounds, of which a preferred candidate was then selected.

Dr. Julie Sharp, Cancer Research UK's senior science information manager, said: "This is exciting research showing that this [experimental drug](#) does the job of several drugs all at once, by targeting numerous weak spots in cancer cells.

"Using one [master switch](#) to turn off the different faulty messages forcing [cancer](#) cells to keep growing could be an effective way to destroy tumours. It could also reduce the chance of patients becoming resistant to treatment."

More information: Yap et al. AT13148 is a novel, oral multi-AGC kinase inhibitor with potent pharmacodynamic and antitumour activity. *Clinical Cancer Research* (2012). [DOI: 10.1158/1078-0432.CCR-11-3313](#)

Provided by Cancer Research UK

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