

# Modified Ecstasy holds promise as blood cancer treatment

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Birmingham scientists have discovered a modified form of the drug MDMA - commonly known as Ecstasy - which has 100 times more cancer-busting properties than the popular recreational drug itself and which they hope may be able to be produced in a safe form to treat patients.

Research results published online today in the journal *Investigational New Drugs* show significant success in 'redesigning the designer drug' for potential use as a cancer-killing agent in the treatment of leukaemia, lymphoma and myeloma.

The new work builds on the Birmingham scientists' discovery six years ago that more than half of the cancers of white blood cells they looked at responded in the test tube to the growth-suppressing properties of psychotropic drugs. These include amphetamine derivatives such as Ecstasy and weight-loss pills, and antidepressants such as fluoxetine (Prozac).

At the time, the team stressed that translating their laboratory findings into a useable clinical compound would present significant problems, not least because the dose of MDMA required to treat a cancerous tumour would have proved fatal to the patient. They aimed to break down the actions of the drug to isolate its cancer-killing properties from its general toxicity.

Working with researchers from the University of Western Australia who produced the new compounds for them, the Birmingham scientists found specially modified forms of Ecstasy boosted in their ability to attack and destroy cancerous cells by a factor of 100. Importantly for the future, they believe they understand the mechanism behind this.

Lead author Professor John Gordon, from the University's School of Immunology and Infection, explains: 'Together, we were looking at structures of compounds that were more effective. They started to look more lipophilic, that is, they were attracted to the lipids that make up cell walls. This would make them more 'soapy' so they would end up getting into the cancer cells more easily and possibly even start dissolving them. By knowing this we can theoretically make even more potent analogues of MDMA and eventually reach a point where we will have in our drug cabinet the most potent form we could.'

He adds: 'This is an exciting next step towards using a modified form of MDMA to help people suffering from blood cancer. While we would not wish to give people false hope, the results of this research hold the potential for improvement in treatments in years to come.'

The team now hopes to go on to develop pre-clinical studies.

**[See the full press release \(/news/latest/2011/08/18Aug11ModifiedEctasyholdspromiseaspotentbloodcancertreatment.aspx\)](#)**