

Cannabis compound slows lung cancer in mice

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 - [NewScientist.com news service](#)
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The active compound in marijuana, THC, can slow the growth of lung tumours and reduce the spread of the cancer in mice, a preliminary study reveals.

Human lung cancer tumours grew less than half as fast in mice that received moderate doses of the compound, the researchers reveal. They hope that drugs mimicking the apparent anti-cancer effects of tetrahydrocannabinol (THC) could one day help treat patients. The team strongly discourage people from self-medicating by smoking marijuana, noting that doing so could potentially encourage tumour growth.

Ramesh Ganju at the Harvard Cancer Center in Boston, Massachusetts, US, and colleagues deposited human lung cancer cells under the skin of a dozen mice and allowed the tumours to grow in the animals for about two weeks. They then began giving half of these mice daily injections of about 250 micrograms of synthetic THC right next to the tumours for three weeks. A cannabis cigarette may contain as much as 150 milligrams of THC.

Tumours in the control mice averaged about 0.6 grams in weight by the end of the five-week trial. By comparison, those in the mice that received THC weighed just 0.25 grams – 60% less.

Blood blocker

In a separate experiment to test whether THC could slow the spread of cancer cells (metastasis), the researchers injected human lung cancer cells into the tail veins of mice to mimic such a spread. The team immediately started giving half of these animals a daily 250 microgram injection of THC for three weeks. They found 60% fewer cancerous lesions in the mice that received THC compared to the control animals.

Ganju believes that THC inhibits cancer growth by blocking the formation of blood vessels within tumours. Previous tests on human lung cancer cells in a dish suggested that THC blocked the signalling of a substance known as epidermal growth factor (EGF). Under normal circumstances, EGF may promote blood vessel development, Ganju says.

Previous studies have also found that [THC can shrink brain tumours](#). Nevertheless, experts caution people against smoking marijuana. "I wouldn't advise that. It could make the cancer grow faster," says Ganju, noting that THC [might encourage the growth of breast cancer](#). He adds that that "a lot of work needs to be done" before scientists fully understand how THC affects tumours.

While some studies have found no link between cannabis use and cancer, others have concluded that [cannabis smoking is "more harmful" than tobacco](#) because the smoke is inhaled more deeply into the lungs.

Ganju's team presented the new findings this week at the annual meeting of the American Association for Cancer Research in Los Angeles, California, US.

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