

Aloe vera extract gave rats tumours

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[Aloe vera](#) food supplements and drinks are supposed to help your gut stay healthy – or so herbalists claim. But now a warning flag has been raised by the US [National Toxicology Program](#) (NTP), which has found that rats given drinking water spiked with an extract of the succulent plant [developed tumours in their intestines](#).

The rodents were given relatively high doses of a whole-leaf extract of aloe vera (*Aloe barbadensis*) over two years. In rats given water containing 1.5 per cent by weight of the extract, 39 per cent of females and 74 per cent of males had malignant or benign tumours in their large intestines. None of these growths were seen in rats given pure drinking water.

Mice given similar doses did not develop more tumours than normal – but rats are thought to be a better model for the risks to people, as mice have a different distribution of gut bacteria that process constituents of aloe vera.

Still, it's not yet clear what the results mean for people consuming products containing aloe vera as part of a "natural health" regime.

"At this stage, we're looking at designing the next round of experiments," says Daniel Fabricant at the US Food and Drug Administration (FDA), which contributed to the report, and is responsible for regulating dietary supplements. "We want to relate the results to the commercial products that are out there."

Prime suspect

Experiments to estimate the risks to people are likely to last several years. The first task is to establish which biochemicals within the complex mixture extracted from aloe vera are responsible for causing the rats' tumours, says [Nigel Walker](#) of the National Institute of Environmental Health Sciences in Research Triangle Park, North Carolina, who evaluated the NTP results.

The prime suspect is a substance called aloin A, which together with other aloe extracts was [removed from laxatives](#) sold over the counter in US pharmacies in 2002, because manufacturers had failed to provide the FDA with sufficient information on safety.

If aloin A is to blame for the rats' tumours, then concern will focus on products made from whole leaf extracts. Aloe vera gel and "decolourised" extracts that have been filtered through activated charcoal contain much less aloin A.

Cure-all?

In addition to promoting general health, some herbalists claim that aloe vera supplements can help treat conditions including asthma and diabetes – although the US National Center for Complementary and Alternative Medicine warns that there is [not enough scientific evidence](#) to support these uses.

[Lois Swirsky Gold](#) at the University of California, Berkeley, who studies cancer hazards, notes that about half of all chemicals tested in rodents at high doses cause cancer, whether natural or synthetic.

"People are consuming herbal supplements with the idea that they're beneficial," she says. "The truth is that we know very little about their benefits or their risks. Just because they are 'natural' does not make them safe."