

# How Green Tea Can Destroy Oral Cancer Cells

[MIKE BARRETT](#) | [Naturalsociety](#) | Feb 10th 2015

A recent [study](#) carried out by Penn state food scientists  has shed even more light on green tea's anti-cancer effects, **finding that a compound within the antioxidant-rich beverage may be capable of destroying oral cancer cells while leaving healthy cells completely unharmed.**

The compound responsible for many of green tea's benefits and one which is known to protect against cancer is known as epigallocatechin-3-gallate (EGCG). The compound has been studied extensively for its ability to not only prevent and beat cancer, but also increase metabolism, [protect the brain](#), and slow the aging process.

Though while EGCG has been shown in previous studies to kill these cancer cells, scientists weren't quite sure why or how. The recent study helped bring them closer to understanding, suggesting that EGCG may trigger a process in the mitochondria that leads to cell death.

Joshua Lambert, associate professor of food science and co-director of Penn State's Center for Plant and Mushroom Foods for Health, [said](#):

*"EGCG is doing something to damage the mitochondria and that mitochondrial damage sets up a cycle causing more damage and it spirals out, until the cell undergoes programmed cell death. It looks like EGCG causes the formation of reactive oxygen species in cancer cells, which damages the mitochondria, and the mitochondria responds by making more reactive oxygen species."*

Over time, the mitochondria lose more of its defenses with a breakdown in the expression of antioxidant genes. In their weakened state, the cancer cells eventually succumb to EGCG in full, and they die.

*“So, it’s turning off its mechanism of protection at the same time that EGCG is causing this oxidative stress,” Lambert added.*

The researchers also note how a protein called sirtuin 3 (SIRT3) is critical to the process of mitochondrial function, which is affected by EGCG.

*“It plays an important role in mitochondrial function and in anti-oxidant response in lots of tissues in the body, so the idea that EGCG might selectively affect the activity of sirtuin 3 in cancer cells – to turn it off – and in normal cells – to turn it on – is probably applicable in multiple kinds of cancers.”*

**Excitingly, the EGCG didn’t cause any harm to normal cells. In fact, it appeared to increase the protective capabilities of normal cells.**

Since the research was done using petri dishes, the next step is to test on animals and humans, the researchers said. From there, they hope to make anti-cancer treatments without all of the harmful side effects caused by conventional treatments like chemotherapy.

*“The problem with a lot of chemotherapy drugs – especially early chemotherapy drugs – is that they really just target rapidly dividing cells, so cancer divides rapidly, but so do cells in your hair follicles and cells in your intestines, so you have a lot of side effects,” said Lambert. “But you don’t see these sorts of side effects with green tea consumption.”*

Additional Sources:

[The Telegraph](#)

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[Google Plus Profile](#) | Mike is the co-founder, editor, and researcher behind Natural Society. Studying the work of top natural health activists, and writing special reports for top 10 alternative health websites, Mike has written hundreds of articles and pages on how to obtain optimum wellness through natural health.

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