

Why Science is Sweet on Lemon Essential Oil as a Cancer Fighter

By Ty Bollinger

A citrusy delight, lemon is a summer season favorite that typifies what it means to be a child – think neighborhood lemonade stands and warm, balmy days at the pool. But more than just a refreshing treat, **lemon also contains a rich oil that science suggests could protect against certain types of cancer.**

Native to the Middle East, lemon (or at least its modern variation), has gained considerable attention in scientific literature. It's been used to make everything from simple lemonade beverages and lemon liquors to vinegar and fermented healing elixirs. But perhaps its greatest potential is in [essential oil form](#), which is where lemon really shines.

Can Lemon Halt Cervical Cancer?

Long recognized as a remedy for cold symptoms and other respiratory ailments due to its [high vitamin C](#) and antioxidant content, lemon has more recently been identified as possessing a wealth of other nutrients that

work together to target cancer cells. A 2010 review published in the *Journal of Medicinal Plants Research* identified essential oil of lemon as possessing the capacity to stop [human cervical cancer cells](#) in their tracks.

Using hydro-distillation, Chinese scientists extracted lemon essential oil and tested it on a series of human cervical adenocarcinoma cell lines. They found that the oil not only blocked the cancer cell lines from spreading, but also inhibited oxidizing free radicals from harming healthy cells.

Lemon Essential Oil Offers Multiple Benefits against Cancer

A larger review of plant extracts and the various roles they play in preventing and treating disease revealed that essential oils, including that of the lemon, acts in multiple ways to target cancer. [Lemon and other essential oils](#), a research team found, utilize multiple pathways and mechanisms to thwart cancer. They do this through cell cycle arrest, apoptosis (cell suicide), increased levels of reactive oxygen and nitrogen species, and anti-metastasis

and anti-angiogenic (stopping tumors from growing blood vessels) activities.

A mixture of lemon essential oil combined with eucalyptus, melaleuca, [lemongrass](#), clove leaf, and thyme, in a 40 percent ethanol base, demonstrated anti-tumorigenic effects when administered to patients with metastatic tumorigenic ulcers. Cancer patients have also found relief from pain, anxiety, nausea, and vomiting by using lemon and other essential oils.

How Your Nose Can Help Stop the Spread of Cancer

Another study published in 2015 in the journal *Archives of Biochemistry and Biophysics* reveals that **citronella terpenes in lemon essential oil stop the growth of cancers**, including those of the liver, through olfactory activation. In other words, citronella terpenes activate certain smell receptors located throughout the body in order to [prevent the spread of cancer](#).

“Terpenes can trigger signaling processes in cells by activating olfactory receptors,” wrote the authors of this study in a January 2015 press release. “Those receptors

are mainly located in the nose, but they have been proved [sic] to occur in all types of human tissue, including skin, prostate, and spermatozoa. Carcinogenesis and cancer growth are likewise significantly affected by terpenes.”

Please help bring more awareness about the cancer fighting benefits of lemon and other essential oils by sharing this article with your friends and family.

Article Summary

- Lemon contains a rich essential oil that science suggests could protect against certain types of cancer.
- A 2010 review published in the *Journal of Medicinal Plants Research* identified essential oil of lemon as possessing the capacity to stop human cervical cancer cells in their tracks.
- Cancer patients have also found relief from pain, anxiety, nausea, and vomiting by using lemon and other essential oils.
- Another study published in 2015 in the journal *Archives of Biochemistry and Biophysics* reveals that citronella terpenes in

lemon essential oil stop the growth of cancers, including those of the liver, through olfactory activation.

Sources and References

- [Evaluation of Antioxidant and Antitumor Activities of Lemon Essential Oil](#)
- [Essential Oils and Their Constituents as Anticancer Agents: A Mechanistic View](#)
- [Monoterpene \(-\)-citronellal affects hepatocarcinoma cell signaling via an olfactory receptor](#)