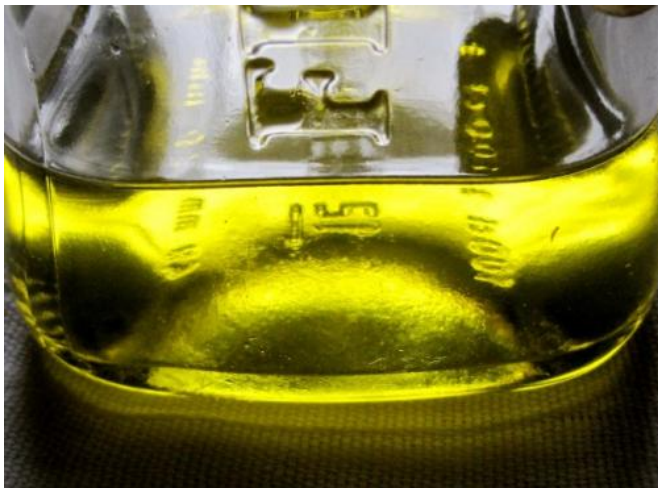


Researchers explain cancer-destroying compound in extra virgin olive oil

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Credit: Lynn Greyling/public domain

Extra virgin olive oil (EVOO), long-known for its heart health benefits, has now been identified for its rapid destruction of cancer cells. While scientists have proven that the oleocanthal compound found in EVOO causes cell death in cancer cells, they have been unable to provide an explanation for this phenomenon until now. Paul Breslin, David Foster, and Onica LeGendre offer answers in their paper "(-)-Oleocanthal Rapidly and Selectively Induces Cancer Cell Death Via Lysosomal Membrane Permeabilization (LMP)," published in *Molecular & Cellular Oncology*.

In their recent study, the researchers discovered that the key to understanding the toxic effect of oleocanthal in cancerous cells lies in its reaction with the lysosomes of the cell, where the cells store waste: the oleocanthal ruptures the cancer cell lysosomes causing [cell death](#) within 30 minutes to an hour while leaving un-cancerous cells unharmed. This suggests that the lysosomal membranes of cancerous cells are weaker than those of un-cancerous cells. Because of

oleocanthal's targeted damage to [cancer cells](#), it may prove an ideal option for therapeutic cancer treatment. Paul Breslin, co-author of the study, said "The mechanism of killing cancer cells and sparing healthy cells, lysosomal membrane permeabilization, has been hypothesized as a possible mechanism of effectively killing cancer cells and sparing healthy tissues but has never been realized before. Our realization of this makes this paper of particular therapeutic interest for cancer treatment."

The study's focus on the effect of oleocanthal on cancerous and un-[cancerous cells](#) leads to larger implications about the health benefits of the Mediterranean diet, which is rich in EVOO. Breslin stated, "the Mediterranean diet is known to be associated with a reduced risk of many different kinds of cancer. Whereas the entire diet likely has many benefits, this study points directly to the olive oil phenolic, oleocanthal, as playing an especially important role in these observations. As more people turn to the Mediterranean diet as a healthy life option, oleocanthal is growing in its significance as a key active component of this [diet](#)."

More information: "(-)-Oleocanthal Rapidly and Selectively Induces Cancer Cell Death Via Lysosomal Membrane Permeabilization (LMP)," published in *Molecular & Cellular Oncology*. [DOI: 10.1080/23723556.2015.1006077](https://doi.org/10.1080/23723556.2015.1006077)

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