

# Spicy compound from chili peppers slows lung cancer progression

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Findings from a new study show that the compound responsible for chili peppers' heat could help slow the spread of lung cancer, the leading cause of cancer death for both men and women. Most cancer-related deaths occur when cancer spreads to distant sites, a process called metastasis.

"Lung cancer and other cancers commonly metastasize to secondary locations like the brain, liver or bone, making them difficult to treat," said Jamie Friedman, a [doctoral candidate](#) who performed the research in the laboratory of Piyali Dasgupta, Ph.D., at Marshall University Joan C. Edwards School of Medicine. "Our study suggests that the natural compound capsaicin from [chili peppers](#) could represent a novel therapy to combat metastasis in [lung cancer patients](#)."

Friedman will present the research at the [American Society for Investigative Pathology](#) annual meeting during the [2019 Experimental Biology meeting](#) to be held April 6-9 in Orlando, Fla.

In experiments involving three lines of cultured human non-small cell lung cancer cells, the researchers observed that capsaicin inhibited invasion, the first step of the metastatic process. They also found that mice with metastatic cancer that consumed capsaicin showed smaller areas of metastatic cancer cells in the lung compared to mice not receiving the treatment.

Additional experiments revealed that capsaicin suppresses [lung cancer](#)

metastasis by inhibiting activation of the protein Src. This protein plays a role in the signaling that controls [cellular processes](#) such as proliferation, differentiation, motility and adhesion.

"We hope that one day capsaicin can be used in combination with other chemotherapeutics to treat a variety of lung cancers," said Friedman.

"However, using capsaicin clinically will require overcoming its unpleasant side effects, which include gastrointestinal irritation, [stomach cramps](#) and a burning sensation."

The researchers are working to identify capsaicin analogs that will be non-pungent while retaining the anti-tumor activity of capsaicin. They are also trying to identify natural non-pungent capsaicin-like compounds with anti-cancer activity.

**More information:** Jamie Friedman will present this research on Saturday, April 6 at 7 p.m. during the Experimental Biology Welcome Reception in Valencia Ballroom ABCD, Orange County Convention Center and on Tuesday, April 9 at 8:30 p.m. in Room W108 B (poster 368.1) ([abstract](#)).

Provided by Experimental Biology

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