

Aspirin may delay growth of asbestos-related cancer

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Aspirin may inhibit the growth of mesothelioma, an aggressive and deadly asbestos-related cancer, University of Hawai'i Cancer Center researchers have found.

The finding could eventually give doctors and patients a potential new tool to fight against this devastating disease, which kills about 3,200 people a year nationwide, and advance knowledge of how to fight other cancers.

The study published in *Cell Death and Disease* showed that aspirin slows down the growth of mesothelioma by blocking the carcinogenic effects of the inflammatory molecule, High-Mobility Group Box 1 (HMGB1). Researchers believe the molecule directly promotes mesothelioma growth.

"HMGB1 is an inflammatory molecule that plays a critical role in the initiation and progression of malignant mesothelioma. Inhibiting HMGB1 dramatically reduced [malignant mesothelioma](#) growth in mice and significantly improved survival of treated animals," said Dr. Haining Yang, PhD, an associate professor in the Thoracic Oncology Program at the UH Cancer Center.

Aspirin is mostly used as a nonsteroidal anti-inflammatory drug, which is absorbed by the stomach and upper intestine. Working with collaborators, Dr. Yang and Dr. Michele Carbone, MD, PhD, director of the UH Cancer Center's Thoracic Oncology Program, found that at least

some of the so far unknown anti-tumor activity of aspirin is through preventing HMGB1 activity.

Malignant mesothelioma is an aggressive and often deadly cancer that can result from exposure to asbestos and asbestos-like fibers such as erionite. The prolonged presence of [asbestos fibers](#) lodged in the organ lining initiates a vicious cycle of chronic [cell death](#) and chronic inflammation that, over a period of many years, can lead to mesothelioma.

The researchers theorized that people at high risk of developing [mesothelioma](#) could take aspirin as a way to prevent or delay the growth of the [cancer](#), and thus increase their chances of survival. Such individuals would include people occupationally exposed to asbestos, or people who live in areas high in naturally occurring asbestos-like fibers. They also encourage future studies to uncover the precise mechanism by which aspirin blocks HMGB1.

Provided by University of Hawaii at Manoa

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