

Asthma drug prevents spread of breast cancer: study

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A drug commonly used in Japan and Korea to treat asthma has been found to stop the spread of breast cancer cells traditionally resistant to chemotherapy, according to a new study led by St. Michael's pathologist Dr. Gerald Prud'homme.

"Tranilast, a drug approved for use in Japan and [South Korea](#), and not in use in Canada or the U.S., has been used for more than two decades to treat asthma and other allergic disorders including allergic rhinitis and atopic dermatitis," Dr. Prud'homme says. "Now, our study is the first to discover it not only stops [breast cancer](#) from spreading but how the drug targets breast cancer cells."

Researchers grew breast cancer [stem cells](#), which give rise to other cancer cells, in culture. The cells were injected into two groups of mice, including one group, which was also treated with tranilast. Dr. Prud'homme and his colleagues found the drug reduced growth of the primary cancerous tumour by 50 per cent and prevented the spread of the cancer to the lungs. Researchers also identified a molecule in the cancer cell that binds to tranilast and appears to be responsible for this anti-cancer effect.

Tranilast binds to a molecule known as the aryl hydrocarbon receptor (AHR), which regulates cell growth and some aspects of immunity. This makes the drug beneficial in treating allergies, [inflammatory diseases](#) and cancer.

"For the first time, we were able to show that tranilast shows promise for breast cancer treatment in levels commonly well-tolerated by patients who use the drug for other medical conditions," Dr. Prud'homme said. "These results are very encouraging and we are expanding our studies. Further studies are necessary to determine if the drug is effective against different types of breast and other cancers, and its interaction with anti-cancer drugs.

The study is published today in the journal [PLoS ONE](#).

Provided by St. Michael's Hospital

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