

Large amounts of folic acid shown to promote growth of breast cancer in rats

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Dr. Young-In Kim is a physician and researcher at St. Michael's Hospital in Toronto. Credit: St. Michael's Hospital

Folic acid supplements at levels consumed by breast cancer patients and survivors in North America promoted the growth of existing breast cancer in rats, new research found.

The role of folate, a B vitamin, and its synthetic form, [folic acid](#), in the development and progression of [breast cancer](#) is highly controversial. Although some studies have found it may offer protection against breast cancer, recent studies have suggested that taking high amounts of folic acid may increase the risk of developing breast cancer.

Dr. Young-In Kim, a physician and researcher at St. Michael's Hospital, said his lab has shown for the first time that [folic acid supplements](#) in doses 2.5 to five times the daily requirement "significantly promotes" the growth of existing pre-cancerous or cancerous cells in the mammary glands of rats. His research was published today in the online journal *PLOS ONE*.

"This is a critically important issue because [breast cancer patients](#) and survivors in North America are exposed to high levels of folic acid through [folic acid fortification](#) in food and widespread use of [vitamin supplements](#) after a cancer diagnosis," Dr. Kim said. "Cancer patients and survivors in North America have a high prevalence of multivitamin and supplement use, with breast cancer patients and survivors having the highest prevalence."

The amount of folic acid consumed in North America has increased dramatically in the past 15 years. Women are routinely advised to take folic acid supplements before becoming pregnant and while pregnant to prevent neural tube birth defects such as spina bifida. Since 1998, the Canadian and U.S. governments have required food manufacturers to add folic acid to white flour, enriched pasta and cornmeal products as a way of ensuring women receive enough of the B vitamin. In addition, up to 30 to 40 per cent of North Americans take folic acid supplements for possible but as yet unproven health benefits.

Dr. Kim is also a professor of medicine at the University of Toronto. This research was funded in part by the Canadian Institutes of Health

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Provided by St. Michael's Hospital

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