

Some tumors contain factors that may block metastasis

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Scientists are another step closer to understanding what drives tumor metastasis, as laboratory models suggest there are factors inside tumors that can slow their own growth.

In a recent issue of *Cancer Research*, a journal of the American Association for [Cancer Research](#), Raúl A. Ruggiero, Ph.D., a biological researcher at the division of experimental medicine at the National Academy of Medicine in Buenos Aires, Argentina, described this novel mechanism.

Ruggiero and colleagues used bioanalytical methods of ion electrospray mass and tandem mass spectrometry to identify the factors that lead to [metastasis](#) resistance in laboratory models of localized cancer, a phenomenon called "concomitant tumor resistance" in which factors in a tumor can inhibit its own metastasis.

"The main cause of death in [cancer](#) patients is associated much more with metastasis rather than with the growth of a localized tumor, which generally can be surgically removed," he said.

Ruggiero's laboratory found that the presence of variant forms of the amino acid tyrosine were responsible for concomitant tumor resistance. In tumor models where these variants of tyrosine were present, the localized tumor did not tend to metastasize as fast as tumors lacking the variants.

Currently, [tumor metastasis](#) is treated with various chemotherapy regimens, but Ruggiero said the results of this sort of treatment are usually disappointing. He hopes that these tyrosine variants could be developed as a simple and safe type of therapy to retard metastatic growth.

"Both meta- and ortho-tyrosine have many attractive features. They exert antitumor effects at very low concentrations, are naturally produced in the proper [tumor](#) bearing organism, and do not appear to exert any toxic side effects," said Ruggiero. "If these findings are confirmed we could develop new and more harmless means to manage malignant disease."

Provided by American Association for Cancer Research

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