

Researchers review the microbiome and its possible role in cancers

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In the October 20th edition of the journal *Cell Host and Microbe*, Drs. Claudia Plottel and Martin J. Blaser of the Departments of Medicine and Microbiology at NYU Langone Medical Center, and the Department of Biology at New York University, present a model for understanding how cancer evolves in humans based on an understanding of the bacteria living in our body, the microbiome.

The authors suggest that the bacteria that reside in us play a crucial role in maintaining our health. This starts early in our lives, when a newborn is "seeded" with bacteria in the [birth canal](#). This relationship changes later in life during our eventual decline and deterioration.

They also show that early exposures to bacteria like *H. pylori* might protect us early in life but may also be associated with gastric cancers later in life. The authors discuss the potential impact of gut bacterial genes that code for enzymes that metabolize [estrogen](#), which they define as the estrobolome.

"The estrobolome provides a framework for understanding how an individual's resident [gut bacteria](#) may modulate lifetime estrogen exposure," said Dr. Plottel. "States of estrogen excess are associated with an increased risk of developing estrogen-related cancers, so knowledge and characterization of the estrobolome represents a novel area of promising scientific and biomedical research."

Dr. Blaser added, "Understanding and harnessing the microbiome will

allow us to develop improved preventives, diagnostics, and treatments for many cancers. This is an incredible opportunity for medical science."

Provided by New York University School of Medicine

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