Bacteria alter cancer suppression genes in colorectal cancer

Xiaoxuan Xia
William K.K. Wu
Sunny H. Wong
Dabin Liu
Thomas N.Y. Kwong
Geicho Nakatsu
Pearlly S. Yan
Yu-Ming Chuang
Michael W.Y. Chan
Olabisi O. Coker
Zigui Chen
Yun K. Yeoh
Liuyang Zhao
Xiansong Wang
Wing Y. Cheng
Matthew T.V. Chan
Paul K.S. Chan
Joseph J.Y. Sung
Jun Yu

Video Byte

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Abstract

Colorectal cancer is the fourth most common cancer and the fifth leading cause of cancer death worldwide. Two important hallmarks of the disease are faulty tumor suppressor genes and altered composition of the community of microbes that live in the colon. That prompted researchers to explore whether there is a connection between the two. They examined 33 tissue samples from patients with colorectal cancer. Protein-assisted DNA sequencing revealed the prominence of *Fusobacterium nucleatum*, pathogenic bacteria associated with gum disease, and *Hungatella hathewayi*, rod-shaped bacteria with no substantial track record of causing disease. Further experiments showed that these bacteria can actually mute genes that normally suppress cancer, promoting the spread of colorectal cancer cells. The findings are unexpected evidence that bacteria in the colon can regulate genes linked to cancer suppression and reveal at least a few targets for anti-cancer therapy.