Epigenetic modifications of metastasis suppressor genes in colon cancer metastasis.


Source
Department of Food Science and Human Nutrition, University of Illinois at Urbana-Champaign, Urbana, IL, USA.

Abstract
Colon and rectal cancer (colorectal cancer, CRC) is the third most common cancer worldwide. Deaths from CRC account for around 8% of all cancer deaths, making it the fourth most common cause of death from cancer. The high mortality rate of colon cancer is mainly attributable to its metastasis. Efforts have been made to identify metastasis suppressor genes, which encode proteins responsible for inhibiting the metastasis but not suppressing the growth of primary tumors. Studies on metastasis suppressor genes demonstrated that epigenetic modifications, such as DNA promoter methylation and histone modification, play crucial roles in regulating the expression of many metastasis suppressor genes, which indicates the association between aberrant epigenetic alterations and cancer metastasis. This review will focus on the recent findings regarding metastasis suppressors regulated by epigenetic modifications, particularly DNA methylation and histone modification, in CRC metastasis. Also discussed will be recent progress on the suppression of CRC metastasis by genistein, a soy isoflavone, with a focus on epigenetic mechanisms.

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