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Modification of the epigenome by green tea polyphenols: Role in cancer prevention

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Diet and lifestyle factors contribute to cancer development by inducing both epigenetic and genetic changes that, in combination with genetic make-up, result in the disruption of key cellular processes leading to neoplastic process. Dietary polyphenols have been reported to demonstrate many interesting biological activities, including induction of epigenetic changes and cancer prevention. We recently demonstrated that green tea polyphenols has ability to modify the epigenome resulting in upregulation of various tumor suppressor genes in breast and prostate cancers through epigenetic modification(s) at various levels. The presentation will discuss various epigenetic mechanisms elicited by green tea polyphenols resulting in its anticancer activity in breast and prostate cancers. Understanding the mechanism(s) of epigenetic regulation and its reversibility by dietary polyphenols will result in the identification of novel targets that may be useful in developing new strategies for the prevention and treatment of cancer.

Biography

Sanjay Gupta has authored some 130 publications, including book chapters, research articles and reviews, and has spoken at several occasions in cancer prevention symposium, seminars and meetings. He has obtained funding from National Cancer Institute (NCI), National Center for Complementary and Alternative Medicine (NCCAM) and National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). He has also received his funding support from various private foundations including Cancer Prevention Foundation, Ohio Board of Reagents and The Gateway for Cancer Research. He has been serving in various study sections at NCI and Department of Defense (DOD) and reviewer for several prestigious scientific journals. His innovative research on basic and translational aspects has led to publications in several peer-reviewed high-impact scientific journals including *Cancer Research*, *Clinical Cancer Research*, *Oncogene*, *Proceedings of the National Academy of Sciences, USA*, *Journal of Clinical Oncology*, *FASEB Journal* and has been featured on *NBC-5* news and highlighted in the *Plain Dealer*, and *American Association for Cancer Research* press release.

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