Chapter 7

Genomics and proteomics approaches to identify resveratrol targets in cancer

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Summary

This chapter discusses the potential beneficial effects of resveratrol in health with special emphasis on human cancer, and highlights its importance in cancer therapy. It describes how the utilization of the omics approaches of the genomic and post-genomic era and the integration of the information obtained helped to identify resveratrol targets in cancer cells. Resveratrol (3,5,4'-trihydroxy-trans-stilbene) is one of the most studied polyphenolic compounds of the human diet. Resveratrol has attracted much attention as a potential cancer chemopreventive and chemotherapeutic compound since numerous studies have reported its ability to suppress proliferation in a wide variety of malignancies, such as pancreas, thyroid, ovarian, and cervical cancers, among others. The molecular basis of the chemopreventive and antitumoral effects of resveratrol has started to become clear from studies of genome-wide profiling of cancer cells' transcriptome *in vitro*. Proteomic profiling represents a powerful and essential strategy for the accurate identification of new resveratrol targets.