Colon Mucosa Gene Having Down-Regulated Expression In Colon Adenomas And Adenocarcinomas

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Technology description

Summary

Tumor suppressor genes that are down-regulated in colon adenomas and adenocarcinomas have been identified and isolated that may be valuable for the study and treatment of these disorders as well as for detecting and identifying other tumor suppressor genes. Colorectal cancer is a significant problem in the U.S., with 130,000 new cases per year and more than 65,000 deaths per year. Colorectal cancer is a multistep process involving the loss of function of so-called tumor suppressor genes as well as the activation of oncogenes. Studies in cell cultures have shown that the transfer of wild-type tumor suppressor genes to colon cancer cells lacking this gene suppresses tumorigenicity. cDNAs encoding an mRNA that is down-regulated in adenocarcinomas and adenomas of the colon have been isolated and cloned. The mRNA encodes a polypeptide of about 84,500 daltons. This down-regulated in adenoma (DRA) gene maps to chromosome 7, in which abnormalities have previously been linked to colorectal carcinomas. The polypeptide product of the cDNA may be used for studying the process of tumorigenesis and suppression. In addition, the DRA gene and/or polypeptide may be valuable as therapy for colon cancer or for staging colon tumors. Finally, this invention includes nucleotide probes for detecting and isolating other tumor suppressor genes.

Institution

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