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Epigenetics in Cancer

Manel Esteller, M.D., Ph.D.

Since this article has no abstract, we have provided an extract of the first 100 words of the [full text](#) and any section headings.

Classic genetics alone cannot explain the diversity of phenotypes within a population. Nor does classic genetics explain how, despite their identical DNA sequences, monozygotic twins¹ or cloned animals² can have different phenotypes and different susceptibilities to a disease. The concept of epigenetics offers a partial explanation of these phenomena. First introduced by C.H. Waddington in 1939 to name "the causal interactions between genes and their products, which bring the phenotype into being,"³ epigenetics was later defined as heritable changes in gene expression that are not due to any alteration in the DNA sequence.⁴

The best-known epigenetic marker is DNA methylation. . . . [[Full Text of this Article](#)]

Epigenetic Features of a Normal Cell

DNA Hypomethylation in Tumors

Inactivation of Tumor-Suppressor Genes

Histone Modifications of Cancer Cells

Epigenetic Factors and miRNA

Epigenetics in Cancer Management

Epigenetic Therapy of Cancer

Source Information

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This article has been cited by other articles:

- Sidransky, D. (2008). The Oral Cavity as a Molecular Mirror of Lung Carcinogenesis. *Cancer Prevention Research* 1: 12-14 [[Full Text](#)]

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