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Epigenetic changes in gliomas.

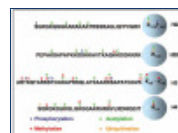
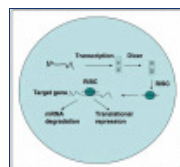
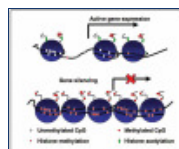
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Abstract

Epigenetics are defined, in broad-terms, as alterations in gene expression without changes in DNA sequence. While histone modifications and DNA methylation are two classical means to regulate gene expression, miRNA has also recently been documented to govern gene expression in normal as well as cancer cells. In this review, we will first describe briefly histone modifications, DNA methylation and miRNAs and the functions of these epigenetic marks during different cellular processes involving DNA metabolism. We will then highlight some epigenetic changes in glioblastomas, a malignant form of brain tumor, and potential application of epigenetic means for diagnosis, prognosis, and treatment of gliomas. We expect that novel therapies will be developed to counter epigenetic changes in this deadly disease.

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