

Study of Epigenomic Changes (Noncoding -Tag. Oncogene) In Primary Cells of Cancer Patients than Biopsy Cells from Normal Tissue

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Abstract

The epigenetic is a set of controlled reversible processes which causes inherited changes in the expression of genes Independent of the change in the nucleotide sequence of DNA. Changes in heterochromatin to euchromatin and vice versa. In DNA Methylation, Histone Modifications are considered as epigenetic mechanisms which regulates target genes in the transcription machine and On the other hand, the interaction of non-coding RNAs like Micro RNAs With target gene has identified their roles in the growth of differentiation and cell death. Therefore, epigenetic factors directly or indirectly change the expression of Micro RNAs in the cell. Certainly failure in these mechanisms leads to activating or inhibiting different messaging pathways and causing diseases such as cancer. As you know, the differentiation and survival of cells occur due to constant gene control patterns that also cancer is created as a result of a change in expression of the activity of carcinogenic genes or tumor suppressor genes. The expression of genes at the DNA and chromatin levels is regulated through epigenetic mechanisms. Of these, some small molecules and drugs that interact with specific sequences of DNA can be modified locally and allow the transcriptional machine to reach the target genes and, ultimately, to change the heterochromatin to the euchromatin, can be mentioned.

The epigenomic settings are considered in four ways:

- Adjustment at the level of chromatin structure
- Adjustment on the surface of Micro RNAs
- Adjustment at the level of the histone structure
- Adjustment at the level of DNA methylation

This hypothesis can be considered that in each replication of the somatic cells, the length of the telomeres is reduced, but in the cancer cells, the telomere length is fixed due to the telomerase activity and as drug compounds connect to the above structures valuable route in inhibiting telomeres and thus stopping the proliferation of cancer cells.

Biography:

Saeed Soroush began his education in 2013 in medicine in Gilan University of Medical Sciences, Rasht-IRAN. He has published more than

10 papers in reputed journals and has been serving as an editorial board member of repute.