Regulatory RNA genes: could they be important to the histopathology of tumors?

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Tumors exhibit complex combinations of traits in association with mutations in the genomes of their lineage committed parent cells. Large numbers of mutations occur in tumors, but the precise driver mutations for each tumors type remain unclear. Some genome studies have documented some tumors type specific patterns of mutation in protein coding genes. However, most of these mutations appear to be passenger/secondary genomic events. For tumors molecular pathology, almost all genomic studies have been of protein coding genes affecting growth, either via cell signaling pathways or proliferation induction. Genes and mutations in them for other traits in tumors have been relatively neglected. In recent years, many regulatory non-coding (RNA) genes in various classes have been described. Studies of the effects of their mutations are in progress. The paper reviews data in the UCSC Genome Browser concerning non-coding genes in or near histopathologically significant and hereditarily predisposing tumors genes. The potential effects of the type of mutation affecting these genes are discussed.

Biography

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