

## **Oncology of the chest**

### **The role of dysregulated microRNA expression in lung cancer**

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MicroRNAs (miRNAs) are a class of small single-stranded non-protein-coding RNAs that play important regulatory roles in many cellular processes including cell proliferation, differentiation, growth control and apoptosis. They regulate gene expression on posttranscriptional level by translational repression, mRNA cleavage or mRNA degradation in various physiological and pathological processes. In addition, some miRNAs can function as oncogenes or tumour suppressors, so they can regulate several genes that play important roles in tumorigenesis. It was found, that miRNAs are directly involved in many types of cancer, including lung cancer. Lung cancer is the leading cause of cancer mortality worldwide with a substantially low survival rate. In this work we summarize recent findings related to miRNAs mechanisms of action and the role of their dysregulated expression in lung tumorigenesis. We describe the most important miRNAs in lung cancer development and targets of their activity. The understanding of the miRNA regulation in cancer may help to better understand the molecular mechanisms of tumorigenesis and their importance in cancerous transformation.

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