

Prediction of MicroRNA-Target Gene by Machine Learning Algorithms in Lung Cancer Study

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Abstract : MicroRNAs are small non-coding RNA found in many different species. They play crucial roles in cancer such as biological processes of apoptosis and proliferation. The identification of microRNA-target genes can be an essential first step towards to reveal the role of microRNA in various cancer types. In this paper, we predict miRNA-target genes for lung cancer by integrating prediction scores from miRanda and PITA algorithms used as a feature vector of miRNA-target interaction. Then, machine-learning algorithms were implemented for making a final prediction. The approach developed in this study should be of value for future studies into understanding the role of miRNAs in molecular mechanisms enabling lung cancer formation.

Keywords : microRNA, miRNAs, lung cancer, machine learning, Naïve Bayes, SVM

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