Student project

Benchmarking miRNA target prediction algorithms

More than two dozen algorithms that predict mRNA targets that might be regulated by miRNAs. Most of these algorithms have undergone a simple performance test in line with the original publication. These tests are based on different underlying test data sets and varying reference algorithms and are generally in favor of the algorithm introduced.

Recent high-throughput experiments have revealed a significant number of miRNA targets as well as an estimate for the effect of miRNA regulation both on transcriptome and proteome level [1, 2].

The goal of this project is to develop an independent and objective benchmarking system that tests all algorithms that have been designed for human miRNA target prediction in terms of specificity, sensitivity and accuracy. Further, the algorithms shall be tested for their ability to predict mRNA regulation efficacy based on their individual scoring system. Finally, strategies and recommendations for making a target prediction should be provided for different scenarios.

Literature


Contact

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