Computer-Based miRNA Predictions to Inhibit SARS-Cov-2 Replication

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My project aims to identify a therapy to treat COVID-19 infections using gene expression and a computer-assisted approach. My computer program, AMiF (Augmented miRNA Filtration Model) works to identify endogenous human miRNA sequences that could bind and inhibit SARS-Cov-2 replication, through a phenomenon called RNA interference. To achieve this objective, my computer program feeds an existing tool, miRDB, the SARS-Cov-2 genome, and then independently filters results through analyzing conserved regions and by browsing existing scholarly literature. As a result, my program identified a shortlist of human miRNA sequences, notably mIR-302c, which could be further experimented and tested as a therapy against COVID-19.

Awards Won:
Fourth Award of $500