Science and Education

The Role of Aptamers in Diagnosis of Human Coronaviruses

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The recently known coronavirus, SARS-CoV-2, has turn into the biggest global health challenge, affecting various societies. Unfortunately, the lack of a particular treatment and gold-standard diagnostic system has made the situation more and more complicated. Efforts have led to production of numerous diagnostic kits that are associated with limitations such as accuracy as well as inadequate sensitivity. Aptamers are the artificial single-stranded DNA, RNA sequences, or peptides that can bind to certain targets with very high specificity. A number of their unique features make them a more effective choice than antibodies. Aptamers typically generated through Systematic Evolution of Ligands by Exponential enrichment (SELEX) and screened and selected via *in vitro* process from a library, making it possible to attach to any target molecules. Even though few surveys have introduced specific aptamer types of coronavirus, they could help us select the best approach to discover specific aptamers for this virus. The present research has offered a systematic overview on the utilization of aptamer-based biosensors and drugs to diagnose and treat human coronavirus.

Keywords: Aptamer, Virus, MERS-CoV, SARS-CoV, COVID-19

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