

**Research Title:** Discovery of DNA aptamers targeting structural proteins of SARS-CoV-2  
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### **Abstract**

The emergence of a novel severe acute respiratory coronavirus 2 (SARS-CoV-2) virus unprecedentedly disrupted our global public health. The urgency to implement accurate and rapid diagnostic methods represents a critical aspect of curbing the spread of the infection. The use of aptamers, oligonucleotides biomolecules typically 15-100 base long of a single strand of DNA or RNA shows a promising alternative for the target and diagnostic of viral infections. These nucleotides present a high and specific affinity for a specific target and can be synthesized artificially via a process known as Systematic Evolution of Ligands by Exponential Enrichment (SELEX). We aim to generate high-affinity aptamers capable of interacting specifically and stably with structural proteins present SARS-CoV-2 and eventually generate aptamers for targeting proteins in other viruses.