

## A rare syndrome, as a tool to understand molecular pathways involved in SARS-CoV-2 infection.

After COVID-19 coronavirus spread, to define effective pharmacological strategies, it became essential to know the molecular effects of viruses on host proteins. This project aims to clarify the role of human mRNA binding proteins in COVID-19 infection. The RNA synthesis of coronaviruses is mediated by proteins of the host cell. In particular the 5'UTR and the 3'UTR genomic viral sequences are crucial for virus replication/transcription and are characterized by conserved stem loops secondary structures. Using appropriate vectors, we cloned and then expressed the CoV2-5'UTR and 3'UTR regions in different cell lines to test the ability of host mRNA binding proteins to bind and affect CoV2-5'UTR and 3'UTR regions. One of the mRNA binding protein that we are studying is involved in many cellular functions and when mutated causes a rare syndrome. Such studies will help in developing therapeutic interventions not only for COVID-19 disease, but also for a rare human disease.

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