

PLEN1

Fighting the enemy – understanding SARS-CoV-2 and its disease-causing mechanisms - Joakim Esbjörnsson¹

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Coronaviruses are single stranded RNA viruses, and the size of the virus genome ranges from 27,000-34,000 bp and encodes approximately 23 proteins. This include the spike (S) protein, a surface glycoprotein that is crucial for viral attachment and entry into the host cell. The currently ongoing SARS-CoV-2 pandemic has caused more 500 million confirmed infections worldwide with over 6 million confirmed deaths since the start in late 2019. Still, more than 11 billion vaccine doses has been administered. The development and administration of an effective vaccine in this short time represents an unparalleled achievement of the research community and industry. This lecture will highlight some of the main discoveries that made this possible and provide an overview of the current knowledge about what SARS-CoV-2 looks like, how it evolves and adapts to the human population, and the current antiviral strategies and vaccines and how our current understanding has been impacted by structural studies of the virus.