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Title:	Immunology to Immunotherapeutics of SARS-CoV-2: Identification of Immunogenic Epitopes for Vaccine Development
Authors:	Madan, Riya (/jspui/browse?type=author&value=Madan%2C+Riya)
Keywords:	Immunotherapeutics of SARS-CoV-2 Immunogenic Epitopes Immunology to Immunotherapeutics
Issue Date:	2022
Publisher:	Springer Nature
Citation:	Current Microbiology, 79(10), 30033.
Abstract:	The emergence of COVID19 pandemic caused by SARS-CoV-2 virus has created a global public health and socio-economic crisis. Immunoinformatics-based approaches to investigate the potential antigens is the fastest way to move towards a multiepitope-based vaccine development. This review encompasses the underlying mechanisms of pathogenesis, innate and adaptive immune signaling along with evasion pathways of SARS-CoV-2. Furthermore, it compiles the promiscuous peptides from in silico studies which are subjected to prediction of cytokine milieu using web-based servers. Out of the 434 peptides retrieved from all studies, we have identified 33 most promising T cell vaccine candidates. This review presents a list of the most potential epitopes from several proteins of the virus based on their immunogenicity, homology, conservancy and population coverage studies. These epitopes can form a basis of second generation of vaccine development as the first generation vaccines in various stages of trials mostly focus only on Spike protein. We therefore, propose them as most potential candidates which can be taken up immediately for confirmation by experimental studies.
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