COVID-19 RESEARCH NEWSLETTER

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Investigating Virological, Immunological, and Pathological Avenues to Identify Potential Targets for Developing COVID-19 Treatment and Prevention Strategies

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Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an emerging coronavirus causing respiratory disease commonly known as COVID-19. The COVID-19 pandemic has drastically affected global healthcare systems and the worldwide economy. It is the largest pandemic outbreak since the Spanish flu in 1918 and has forced drastic changes in the lifestyles of people in terms of more hygiene and restricted social interactions. The disease severity differs considerably from an individual to another. Investigating the virology of COVID-19 and immunological pathways underlying its clinical manifestations will enable the identification and design of effective vaccines and potential therapies.
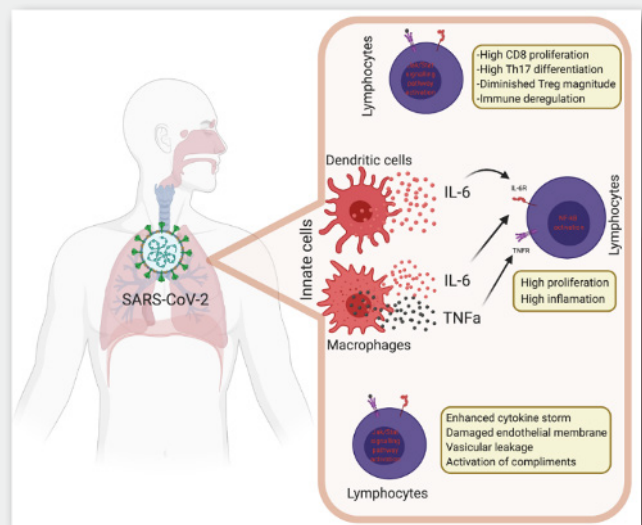
In this review, the authors explore COVID-19 virology, the contribution of the immune system (innate and adaptive) during infection and control of the virus. Several strategies are already being tried clinically to handle the infection, but still there is a desperate need for effective treatments and vaccines against COVID-19. Multiple potential vaccines have been developed and are in different phases of development with the hope of having a successful vaccine by the end of 2020. Many antiviral drugs, such as remdesivir or lopinavir, are currently used either alone or in combination for COVID-19 treatment in multiple clinical trials. They also highlight vaccine development and implications of immune system modulation for potential therapeutic interventions to design better therapeutic strategies to guide future cure. Immunomodulatory drugs targeting cytokines are being used to control the cytokine storm. A better understanding of virological, immunological, and clinical details would open avenues for developing potent solutions.

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If you are interested in sharing your COVID-19 releated research, please send your contribution to research.office@uaeu.ac.ae

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