Abstract

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Adenovirus vector-based SARS-CoV-2 vaccines from immunoinformatics studies to their application in the human population

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Abstract

In December 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) caused coronavirus disease 19 (COVID-19) in China, which was associated with a cluster of respiratory infections. Infection with SARS-CoV-2 has spread to various countries and created a significant threat to public health. Several vaccines have been licensed to protect against infection with SARS-CoV-2.

Recently, the reverse vaccinology technique has been widely used to determine the epitopes for developing multi-epitopic vaccines in various organisms, including Hepatitis B virus, Onchocerca volvulus, Klebsiella pneumonia, Mycobacterium tuberculosis, and Helicobacter pylori. In recent months, reverse vaccinology studies have also been conducted to develop the COVID-19 vaccine. Some researchers using immunoinformatics methods predict S protein epitopes that stimulate the T and B-cell against SARS-CoV-2.

Adenoviral vectors have been studied in a range of infectious diseases as vaccine agents. Their potential to produce a robust and balanced immune response has made them a suitable candidate for the COVID-19 pandemic. These vectors quickly created vaccines with improved designs to overcome the biological difficulties presented by early adenoviral vector systems. This study aimed to discussed Adenovirus vector-based SARS-CoV-2 vaccines from immunoinformatics studies to their application in the human population

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Biography

Maryam Fazeli is an assistant professor Dr. by profession and works as Corona Lab Supervisor of Hamadan Province, in Hamadan University of Medical Sciences, Iran. She holds a Ph.D. in Medical Virology at Modares University, Tehran, Iran. Maryam has six years of work experience as a deputy director of the National Center for Reference and Research on Rabies, Pasteur Institute of Iran, WHO-CC for Reference and Research on Rabies, Tehran, Iran. She has also been involved in different projects of rapid detection and molecular detection, immunology of COVID-19 and rabies virus, and also, national project of eliminating human rabies in Iran for about six years. Dr. Maryam Fazeli when she attended the 2nd Workshop on Rabies Control and Elimination held in Phnom Penh. She got the corresponding 6 ECTS delivered by the University of Lausanne, Switzerland, with an excellent score on the final exam. She also contributed to the organization of bench works of the master program for public health officers in the Middle East and Central Asia (4th Workshop on Rabies Control and Elimination) in 2017 in Amol in Iran. She has some research experience in bioinformatics. She teaches this university.