

## Covid -19 Pandemic:A Study on the Potentialities of Innate and Adaptive Immune Response to Fight Against SAR-S CoV-2

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### Abstract

The respiratory disorders caused by novel corona virus covid-19 (SARS-CoV-2) are a highly contagious disease. The World Health Organization (WHO) has declared the ongoing outbreak has declared as pandemic by World Health Organization (WHO) and it is a global public health emergency. Corona viruses (CoV) belong to the family Coronaviridae with its high mutation rate. The covid19 virus is differ from other corona viruses is inducing the potent a storm of pro inflammatory cytokines that causes the exhaustion of T cells , a state of poor effectors function. The innate and adaptive immune system responds vigorously to get rid of Covid-19 infection. The innate immune response, which is first line of defense against virus, consists of important tools like complement system, interferons and the adaptive immune response soldiers like monocytes, neutrophils lymphocytes fight against virus and cooperate to each other also. The infection becomes severe where immune system is compromised especially the elderly individuals if having diabetes, tuberculosis or cancer are more prone to severe infection. Currently, enormous efforts in the research on novel corona virus are in progress. This study is in the anticipation to understand better the interaction of human immune system to COVID-19 so that it could help to design effective immunotherapy against the Corona virus.

### Keywords:

SARS-CoV-2; COVID-19; coronavirus; pneumonia; respiratory infection, innate, adaptive

### Professional Biography

Dr Sabiha Imran is Associate Professor in the Department of Biotechnology. She did her Post Graduation, M. Phil in Biotechnology and Ph.D in Microbiology. Her area of specialization is Medical Microbiology and Agriculture Biotechnology. She has more than twenty-five years of research and teaching experience. She got first position and was a gold medalist in M.Sc Biotechnology. She has attended and presented research papers in many national and international conferences and has been awarded best paper presentation award in 2008 in a National Conference in AIIMS, New Delhi and an International Conference Faculty of Engineering and Technology, Aligarh in January 2020. She was also invited in an International Conference on Clinical Virology and Infectious Diseases in Dubai as a key note speaker, moderator and a member of organizing committee in 2017. She has thirty publications in reputed Scopus and web of science indexed national and international journals. A start up 'Organic Farm Fresh' from New Gen IEDC was awarded in March, 2019 to the students of Biotechnology under her mentorship. She also has a rare distinction of being a qualified Registered Microbiologist of Canadian college of Microbiology (RMCCM).

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