Investigation of the Ncov-2019 Variants and Vaccines

Samira Abdikhani[+,1], Shokouh Rezaei[+,1], Yahya Sefidbakht[*,1], Sareh Arjmand[1]

According to reports about the appearance of various mutations in the novel coronavirus 2019 (nCoV-2019), the main purpose of this article is to introduce the types of mutations and important variants around the world. This study mainly focuses on the surface protein of the virus, called Spike (S) protein. S protein has undergone the most known mutation to date and has been used as the main target by vaccine platforms. Therefore, considering the importance and role of S protein, an attempt has been made to discuss mutations, the emergence of new variants, and their possible consequences in design and development of drugs and vaccines. Furthermore, developed nCov-19 vaccine platforms (based on mRNA, inactivated virus, protein subunit, replicating viral vector, and virus-like particles) being introduced. Also, according to international standards, monitoring of each method is being performed, which based on accurate scientific analysis and better statistical models, the potentials of these methods can be used to reduce the effects of the epidemic.

[*] Author for Correspondence, Assistant Professor, Tel: +98 21 229905021, E-mail: y_sefidbakht@sbu.ac.ir
[+] First/Equal authors
[1] Protein Research Center, Shahid Beheshti University, Tehran, Iran