



# A short note on COVID-19 variants since its outbreak

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## DESCRIPTION

COVID-19 or Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCoV2) is a novel severe acute respiratory syndrome coronavirus. It was first isolated in three individuals with pneumonia associated with a group of acute respiratory illnesses in Wuhan. All structural features of the novel SARSCoV2 virus cells are found in the associated coronavirus in nature. After that, it became a geographical plateau with various variations. The COVID-19 variants of concern are described below.

## VARIANTS OF COVID-19

If there is a change/mutation in the gene of the virus, a mutant or strain of the virus will occur. RNA viruses such as coronaviruses are normal and expected to evolve and change over time. It is important to note that the virus mutates regularly and COVID-19 has undergone thousands of mutations since its first appearance. However, only a few of these mutations are important and can significantly alter the virus. Many mutations act as barcodes to monitor spread. There are thousands of variants of COVID-19, but as of March 2022, there are only four variants of concern. One variant of concern is the COVID-19 strain, which is more contagious and has been observed to be more likely to cause breakthroughs or reinfection in vaccinated or previously infected individuals. These variants are more likely to cause serious illness, bypass diagnostic tests, and resist antiviral treatment.

## THE TYPES OF COVID-19 THAT HAVE BEEN LABELLED AS VARIANTS OF CONCERN ARE:

### Alpha (B.1.1.7)

At the end of 2020, experts identified a genetic

mutation in 19 cases of COVID found in an individual in southeast England. Since then, the mutations have been reported in other countries, and it is estimated that these mutations spread the virus by up to 70% and can spread more easily. Some studies have associated this mutation with a higher risk of death, but the evidence is not strong. Mutations in the alpha variant are found on the spike protein and help the virus infect its host. This is the goal of the COVID-19 vaccine. Since these vaccines make antibodies against many parts of the spike protein, it is unlikely that a single new mutation in the alpha variant will reduce the effectiveness of the vaccine.

### Beta (B.1.351)

Other variants of the virus have been found in other countries, including South Africa and Nigeria. Beta variants appear to spread more easily than the original virus, but do not seem to cause any more serious illness.

### Gamma (P.1)

In January 2021, experts spotted this COVID-19 variant in people from Brazil who traveled to Japan. By the end of that month, it was showing up in the U.S.

### Delta (B.1.617.2)

The first COVID-19 variant detected in India was Delta (B.1.617.2). This variant was discovered in India in December 2020. It caused a big spike in the mid-April 2021 incident. This highly contagious variant is currently found in 178 countries, including the United States, United Kingdom, Australia, and across Europe. It is the dominant variety in the United States and

the United Kingdom.

## **CONCLUSION**

Some mutations appear to affect the coronavirus spike protein, which covers the outer envelope of SARSCoV2 and gives the

virus a unique backbone appearance. These proteins help the virus attach to human cells in the nose, lungs, and other parts of the body. Researchers have found evidence that some new mutants bind more strongly to cells.