

New Omicron coronavirus variants

South African scientists have discovered two new variants of the Omicron coronavirus. Lineages BA.4 and BA.5 are active in Botswana, Belgium, Germany, Denmark and the UK

SARS-CoV-2 virus

Spike protein

Infection: Spike protein binds to ACE2* receptor – entry point into human cell for virus to replicate

Mutations:

Changes in genetic code of spike protein affects ability to infect cells

Human cell

ACE2 receptor

Viral genome

*angiotensin-converting enzyme 2

Variants of concern: Mutations since virus appeared in 2019

B.1.1.0

Scientific name

0

Genetic mutations



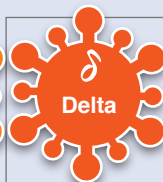
Alpha



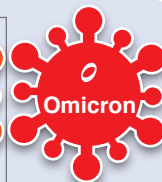
Beta



Gamma



Delta



Omicron

B.1.1.7

Sep 2020
UK

11

B.1.351

Oct 2020
South Africa

10

P.1

Nov 2020
Brazil

12

B.1.617.2

Oct 2020
India

10

B.1.1.529

Nov 2021
Global

32

Omicron lineages: More mutations than all other variants combined

BA.1

39

Includes
13 unique
mutations

BA.1.1

40

BA.2

31

BA.2.H78Y

1

Mutation of
BA.2 found in
Denmark and
Sweden

BA.3

34

21 shared
mutations
between
BA.1 to BA.3

BA.4

BA.5

Genetic
variations
not fully
known

