

**Africa Union**  
**Africa Centres for Disease Control and Prevention (Africa CDC)**

**Alert Notification: New SARS-CoV-2 variants with multiple spike protein mutations**

Date/Time	22 December 2020
Incident/Event title/Name	New SARS-CoV-2 variant with multiple spike protein mutations
Notification type	Alert
From	Africa Centres for Disease Control and Prevention (Africa CDC) jointly with Africa Task Force for COVID-19 Response (AFTCOR)
To	AU Member States

### 1. Background

Africa is currently experiencing a second wave of the COVID-19 pandemic. Over the last four weeks, an average 9% increase in the number of new cases has been reported with the majority of these cases are being reported from South Africa. In addition to this second wave of cases, South Africa discovered a new variant of the SARS-CoV-2 virus (501Y.V2) circulating among the newly reported COVID-19 cases. While this 501Y.V2 variant is different from the recently identified 501Y variant reported from the United Kingdom (UK), preliminary analysis from South Africa and the UK suggests that these variants are significantly more transmissible than previously circulating variants.

### 2. Situation Summary

The Network for Genomics Surveillance in South Africa (NGS-SA), led by Prof. Tulio de Olivera, identified the new 501Y.V2 variant of the SARS-CoV2 virus that is likely driving the second wave of infections in South Africa. This new variant is defined by multiple non-synonymous mutations in the spike (S) protein. Three of these mutations are located on the receptor-binding domain (RBD) of the spike protein - the most notable being the N501Y mutation on the receptor binding motif that binds to the human Angiotensin Converting Enzyme-2 (ACE2) receptor. In addition, the United Kingdom recently identified a second new lineage of SARS-CoV-2, which also contains an N501Y mutation but is distinct from the South African variant. Further studies are ongoing to determine if this lineage is more infectious and transmissible; causes more severe illness; or can evade existing diagnostics, therapeutics, or immunity from previous infection or vaccination.

As of 21 December, more than 300 COVID-19 cases with the 501Y.V2 variant have been identified, all in South Africa. Preliminary analysis in South Africa (501Y.V2) and the UK (501Y) suggests that these variants are significantly more transmissible than previously circulating variants and are potentially associated with a higher viral load.

### 3. Recommendations

While research is ongoing to better understand how these new variants will impact clinical outcomes, testing accuracy, and vaccine efficacy, this notification is being sent out to increase Member State awareness of these new highly transmissible variants from South Africa and the UK, which may spread to other Member States. Given that there is currently a lack of evidence to indicate the extent to which these new 501Y lineages are spread outside of South Africa or outside Europe, timely efforts to monitor, prevent and control its spread are needed, and include the following groups.

An emergency AFTCOR meeting was convened by Africa CDC on 21 December 2020, and the task force recommended the following:

#### Member States and Health Authorities should:

- a) Reinforce efforts to increase testing, contact tracing and early treatment of cases.
- b) Enhance surveillance and cross-border health measures at ports of entry with no restrictions on travel and trade.
- c) Enhance community-based surveillance for early identification of hotspots.
- d) Encourage community members to adhere to public health and social measures for their protection.

#### Public Health Laboratories and Researchers should:

- a) Notify Africa CDC immediately if they identify any new SARS-CoV-2 variant.
- b) Strengthen collaboration and coordination with national and regional pathogen genomics laboratories in order to conduct genomic surveillance and sequencing of the virus in a timely manner. The Africa CDC IPG, through the Africa Pathogen Genomics Initiative, and WHO will support this coordination at the continental level.
- c) Follow-up cases with S-gene drop-out during RT-PCR tests and suspected COVID-19 reinfection. Specimens of suspected cases should be stored for further sequencing and investigation.

### 4. Additional resources:

- Detailed presentations on the 501Y.V2 by Prof. Tulio de Oliveira and Prof. Salim Abdool Karim on what we know, what we do not know and what does mean for the pandemic in Africa are available at: <https://www.krisp.org.za/ngs-sa/>
- A simple Question and Answer section produced by the South Africa Department of Health is also available at: <https://www.krisp.org.za/news.php?id=460>
- Information on the U.K. lineage is available the COVID-10 Genomics UK Consortium Website (<https://www.cogconsortium.uk/news/>) and on virological.org website (<https://virological.org/t/preliminary-genomic-characterisation-of-an-emergent-sars-cov-2-lineage-in-the-uk-defined-by-a-novel-set-of-spike-mutations/563>)

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