Key Messages

- On January 6, 202, the National Institute of Infectious Diseases (NIID) of Japan detected a new variant isolate of SARS-CoV-2 from four travelers who arrived in Tokyo from Amazonas, Brazil, on January 2, 2021 at the airport screening. The isolate has some mutations found in previously reported variant isolates of concern from the UK and South Africa.
- Information on the variant isolate is limited to viral genome sequence data. Further investigation is necessary to assess infectivity, pathogenicity, and impact on laboratory diagnosis and vaccine efficacy of this variant strain.
- NIID recommends that persons infected with the variant isolate should be monitored in an isolated room and active epidemiological investigation should be initiated including contact tracing (with source investigation) and monitoring of the clinical course.
- Recommendations on prevention measures for individuals are avoidance of the three Cs, wearing a mask, and handwashing, as has been emphasized before.

Technical detail

- The new variant isolate (GISAID ID: EPI_ISL_792680 to 792683) belongs to B.1.1.248 lineage and has 12 mutations in the spike protein, including N501Y and E484K.
- N501Y is a mutation found in variant strains including VOC-202012/01 and 501Y.V2, implicated to increase transmissibility.
- The E484K was reported to be an escape mutation from a monoclonal antibody which neutralize SARS-CoV-2 (1,2). The E484K has been observed in variant isolates escaping from convalescent plasma (3) and with a 10-fold decrease in neutralization capability by convalescent plasma (4) (both in preprint articles), suggesting possible change in antigenicity.
- In Brazil, a variant isolate with E484K belonging to B.1.1.248 was reported on January 6, 2021 (5), but it is not identical to the new variant isolate identified in Japan.
Reference


