



INSACOG BULLETIN

(28 June 2021)

The Indian SARS-CoV-2 Genomics Consortium (INSACOG) has now been expanded to 28 laboratories to monitor the genomic variations in the SARS-CoV-2.

Like other RNA viruses, SARS-CoV-2, is prone to genetic evolution while adapting to their new human hosts, with the emergence of mutations over time, resulting in variants that may have different characteristics than its ancestral strains.

As on 28th June 2021, INSACOG has processed over 45,000 sample and sequenced 36,883 samples with Pangolin lineage classification.

The proportion of cases with variants of concern (VoC) has risen from 10.31% in May 2021 to 51% as on 20th June 2021. These VoCs are distributed across 174 district in 35 states, with highest numbers being reported from districts in Maharashtra, Delhi, Punjab, Telangana, West Bengal and Gujarat.

The Delta variant is now the dominant lineage and the vast majority of the new samples being sequenced are of Delta lineage, from all parts of India. Among the new sub-lineages occurring within Delta (Delta plus variants), AY.1 and AY.2 are the main new Delta sub-lineages seen in India. They have all the defining 7 spike mutations of Delta lineage. Acquisition of K417N mutation in the Delta (B.1.617.2), which otherwise is a lineage defining mutation for B.1.351 (another VoC), resulted in evolution of AY.1. Similarly, acquisition of K417N and A222V mutations in Delta (B.1.617.2), resulted in evolution of AY.2.

So far, 56 cases have been reported from India for sampling period extending from last week of March. AY.1 has been identified in Maharashtra, Tamil Nadu, Telangana, Madhya Pradesh, Kerala, Punjab, Gujarat, Odisha, Andhra Pradesh, Rajasthan, Chandigarh, Jammu and Karnataka. AY.2 has been reported in small numbers from Andhra Pradesh, Karnataka and Maharashtra. The states have been duly notified for appropriate public health actions. So far AY2 has been reported from 4 countries (Turkey, USA, Portugal and India) and mostly from USA.



It is expected that regions that have already suffered from Delta outbreaks would not have major problem with Delta plus variants, due to reasonable cross-neutralization of AY.1 by antibodies raised against Delta in the population.

As of now, number of cases with AY.1 infection is not increasing faster than that with Delta. However, INSACOG is keeping a close watch on the situation, since any Delta sub-lineage is a variant of concern meriting further investigation.