

Genetic diversity of the novel coronavirus SARS-CoV-2 (COVID-19) in Portugal

More information at <https://insaflu.insa.pt/covid19>



Situation Report

January 16th, 2024

The National Institute of Health Doutor Ricardo Jorge, I.P. (INSA) has analysed **49045** SARS-CoV-2 genome sequences so far.

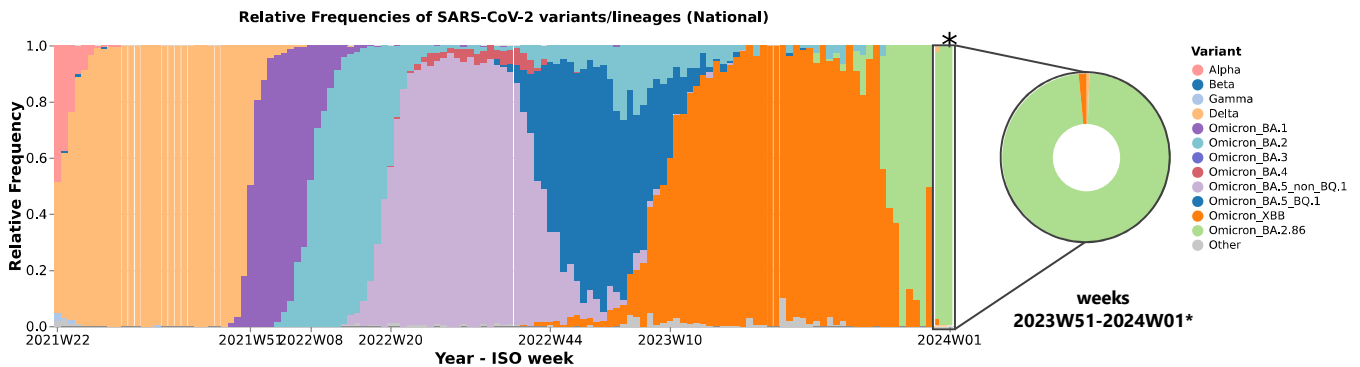


Figure 1: Evolution of the weekly relative frequency of the SARS-CoV-2 variants circulating in Portugal between ISO weeks 22/2021 (31/05/21 - 06/06/21) and 01/2024 (01/01/24 a 07/01/24), with emphasis on the latest weeks. *The interpretation of the presented relative frequencies during this period (ISO weeks 51/2023 to 01/2024) should take into account the current low sampling. **This and other graphs can be explored interactively on the website.**

Main highlights

- The **recombinant lineage XBB** (and its descendants) was **dominant in Portugal, from week 10 of 2023 up to week 43** (Figure 1), presenting a decreasing trend since. In the latest survey (weeks 51/2023 to 01/2024), XBB presented a **relative frequency of 1.5%**, mainly due to its **XBB.1.9 sub-lineage** (and its descendants) (Figure 2).
- The **lineage BA.2** of variant Omicron was dominant in Portugal in the first months of 2022, having maintained a discreet circulation since then, until the emergence of its **sub-lineage BA.2.86**, which is now dominant in Portugal since week 44 of 2023). **It has shown a relative frequency of 97.9% of all sequences analyzed in weeks 51/2023 and 01/2024**, mainly due to the circulation of its **JN.1 sub-lineage** (Figure 2). The BA.2.86 lineage has been detected in several countries and has been a focus of international interest due to its mutational profile, which represents an “evolutionary jump” to its ancestral BA.2, and due to its divergent antigenic profile in relation to the currently dominant variant (XBB). These mutations endow BA.2.86 lineage a greater ability to escape the immune system and, potentially, a greater transmissibility.
- It is known that prolonged infections, particularly in immunocompromised patients, may lead to an atypical increase in accumulated mutations throughout time, namely in the Spike protein. Similar to other already detected cases of prolonged infection, **we highlight the identification of 1 case of lineage AY.124 of the Delta variant, in week 51 of 2023 concerning an immunocompromised patient.** In Portugal, cases of lineages of the Delta variant are not detected in circulation since April 2022. The case is currently under investigation.

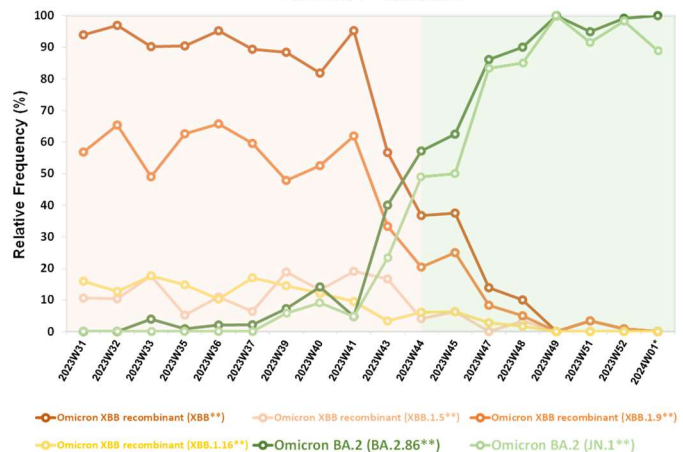
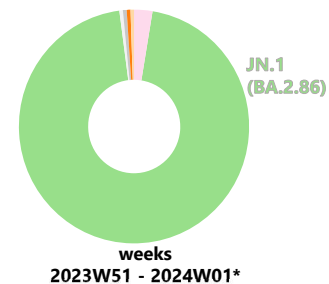


Figure 2: Evolution of the relative frequency of some sub-lineages of interest circulating in Portugal. The circular graph shows the distribution of the relative frequencies of SARS-CoV-2 sub-lineages in the period of ISO weeks 51/2023 and 01/2024 (11/12/23 - 07/01/24). The evolution of XBB, XBB.1.5, XBB.1.9, XBB.1.16, BA.2.86 and JN.1 relative frequencies during the last weeks is shown in the line plot. *The interpretation of the presented relative frequencies during this period (ISO weeks 51/2023 to 01/2024) should take into account the current low sampling. **the presented relative frequencies correspond to the sub-lineages and their descendants. **Other graphs can be explored interactively on the website.**

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Useful links

<https://www.ecdc.europa.eu/en/covid-19/situation-updates/variants-dashboard>
<https://www.who.int/activities/tracking-sars-cov-2-variants>
https://cov-lineages.org/lineage_list.html
<https://outbreak.info/>
<https://www.gisaid.org/>