

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

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



Situation Report

January 24th, 2023

The National Institute of Health Doutor Ricardo Jorge, I.P. (INSA) has analysed **44935** SARS-CoV-2 genome sequences so far.

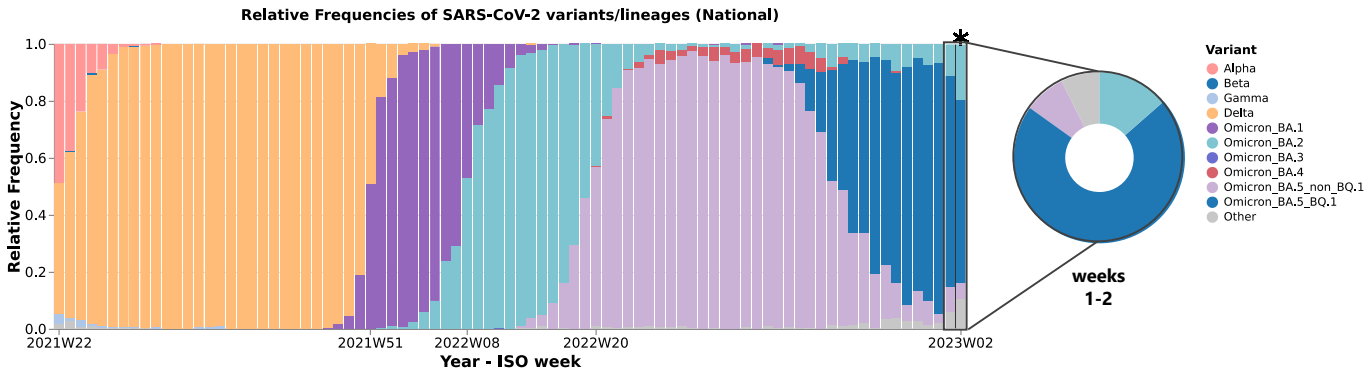


Figure 1: Evolution of the weekly relative frequency of the SARS-CoV-2 variants circulating in Portugal between ISO weeks 22 (31/05/21 - 06/06/21) and 2 (09/01/23 - 15/01/23). The frequencies presented for the last week under analysis (ISO week 2*) might change in the next report, given that some data from that period is still being processed. *This and other graphs can be explored interactively on the website.*

Main highlights

- **Lineage BA.5 of the variant Omicron** (including its multiple sub-lineages) **is dominant in Portugal** since week 19 (09/05/22 - 15/05/22) and presents a **relative frequency of 79.2%** according to the most recent national sequencing survey, relative to the period of weeks 1 and 2 (02/01/23 - 15/01/23) (**Figure 1**).
- The relative frequency of **lineage BA.4 of the variant Omicron** has been residual, with **no sequences detected in the last 4 weeks** (**Figure 1**).
- **Lineage BA.2 of the variant Omicron was dominant in Portugal between weeks 8** (21/02/22 - 27/02/22) and **19** (09/05/22 - 15/05/22). Since then, its relative frequency is residual, with recent resurgence being represented mainly by **lineages BN.1 and CH.1.1 (and its sub-lineages)**, with relative frequencies of 4.7% and 8.3%, respectively, in the period of weeks 1 and 2.
- On behalf of the continuous monitoring of the introduction and circulation of (new) SARS-CoV-2 (sub-)lineages in Portugal, **we have been observing the emergence of sub-lineages of interest**, with novel constellations of mutations potentially associated with resistance to neutralizing antibodies. In Portugal, it is highlighted the **sub-lineage BQ.1** (and its sub-lineages, in particular **BQ.1.1**), which is **dominant since week 42**, although with a decreasing trend since week 52 (**Figure 2**). To date, 52 sequences of the recombinant sub-lineage XBB have been detected in Portugal. Among these sequences, it is highlighted the detection of **7 XBB.1.5 sequences since week 49**. This sub-lineage has been a focus of interest due to its immune evasion capacity and its **recent increase in frequency in several countries**, namely USA.

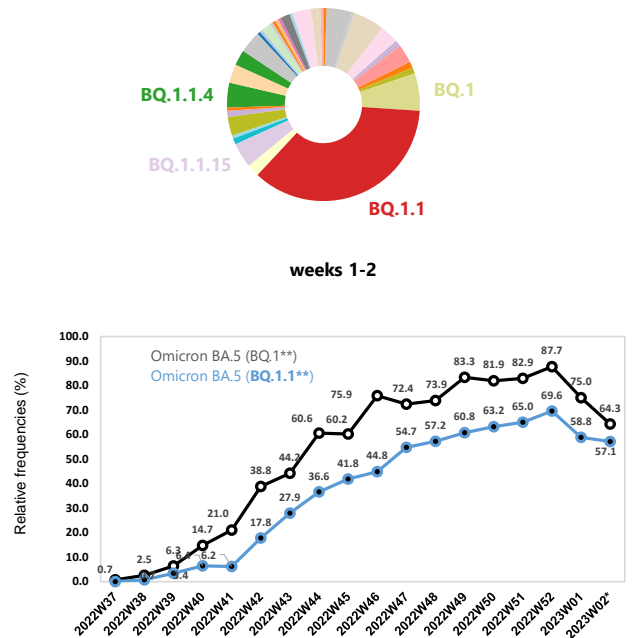


Figure 2: Evolution of the relative frequency of sub-lineage BQ.1 and its descendants BQ.1.1 in Portugal. The circular graph shows the distribution of the relative frequencies of SARS-CoV-2 sub-lineages in the period of ISO weeks 1 and 2 (02/01/23 - 15/01/23), highlighting sub-lineages representing >4% of the sequences analysed in this period. The evolution of BQ.1** and BQ.1.1** relative frequencies during the last 18 weeks is shown in the line plot. It is expected that the frequencies presented for the last week under analysis (ISO week 2*) might change in the next report, given that some data from that period is still being processed. **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/>