VIRvOLT – Virology labs network

Newsletter

July 2024#3

VIRology Operational Laboratories for drug Testing

Productive workshop in Madrid with all the laboratories and bioMérieux !

After 2 years of collaborative work, we implemented a common technique for monitoring viral excretion with normalized viral loads in nasopharyngeal samples, to provide comparable results. This allows a rapid evaluation of the antiviral efficacy of the molecule tested within the 9 countries in a short timeframe ; Each country analyzing its own samples. Different from other European networks which share protocols, viral strains or patient samples, VIRvOLT is the only laboratory network able to provide harmonized virological results, enabling antiviral efficacy monitoring for different clinical trial platforms. Although VIRvOLT is currently focused on SARS-CoV-2, it could be involved in various projects on other viruses.

Thanks to the labs and bioMérieux for this successful collaboration !

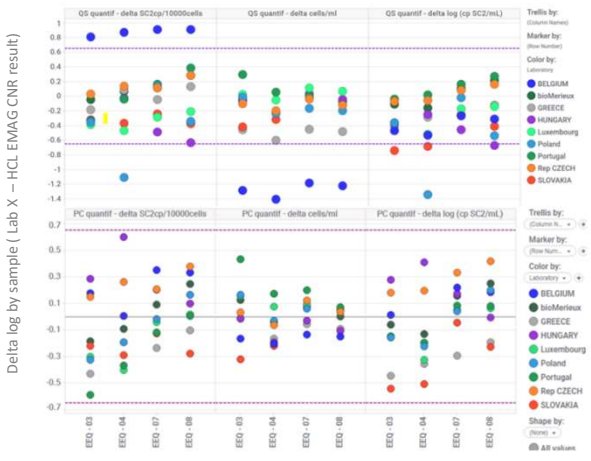
"VIRvOLT is an opportunity to work in European laboratory networks to respond and contribute to the Public Health. But also to expand the laboratory capacity at national level with improved bio molecular assays for SARS-CoV-2 quantification, and be ready to apply the knowledge to other viruses"

Raquel Guiomar, Head of the National Reference Laboratory for Influenza and Other Respiratory Viruses on behalf of the Portuguese Team, first ones to join the network !

External Quality Assessment – 2nd

The 2023 results, demonstrated that the use of Quantification Standard in direct amplification (COVID-19 R-GENE® used with QUANTI SARS-CoV-2 R-GENE® IUO) did not allow to erase the RNA quantification variation coming from extraction systems efficiency. In 2024, to implement a normalized quantification technique between Labs, a new solution considering RNA extraction yield variabilities was assessed for viral excretion monitoring.

Using COVID-19 R-GENE® kit, 8 labs quantified SCV2 samples with amplification Standard range (QS) or with Standard range mimic each targets (RNA for SCV2 & DNA for cellular control and following the entire extraction/amplification process (called PC)).



The new method significantly improves the quantification homogeneity between the labs compared to the method using amplification standards only. These results demonstrated the importance of considering the extraction efficiency difference between RNA target versus DNA.

A great proof of concept of preparedness for a new viral pandemic to evaluate new drugs !

Last EU-RESPONSE publications

Tixagevimab-cilgavimab (AZD7442) for the treatment of patients hospitalized with COVID-19 (DisCoVeRy): A phase 3, randomized, double-blind, placebo-controlled trial – Journal of Infection 2024 Mar;88(3):106120 & medRxiv doi:10.1101/2024.02.23.24302586

Immunomodulators for immunocompromised patients hospitalized for COVID-19: a meta-analysis of randomized controlled trials - EClinicalMedicine. 2024 Feb 9;69:102472

Next steps

- European Project **EU-PROACT :** Selected ! More to come in 2025 !
- **Publication** of results : *Establishment of a European Virology Operational Network for drugs testing / Performance evaluation for SARS-CoV-2 viral load in respiratory samples using EQA through the VIRvOLT network*
- Participation in **congress**

https://eu-response.eu/virology-network/

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