

COMPARISON OF THREE COMMERCIAL TESTS FOR THE SARS-COV2 DETECTION IN THE SAMPLES DURING 2022

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Background: Comparison of the sensitivity of three different RT-PCR tests in the analysis of samples for SARS-CoV-2 detection.

Methods and Objectives: In the laboratory of the Department for Molecular Microbiology, Institute of Public Health of Serbia *Dr Milan Jovanovic Batut* in 2022, a total of 125.116 samples were received for detection of the SARS-CoV-2 using the RT-PCR method. This study presents the results obtained by retesting 200 borderline positive nasopharyngeal swabs. Three different tests were used to detect and confirm SARS-CoV-2 positive samples: 2019-nCoV (Sansure Biotech Inc., China), Xpert Xpress SARS-CoV-2 test (Cepheid, GeneXpert) and Bio-Speedy (Bioeksen).

Results: Using the 2019-nCoV test the borderline positive samples with high Ct values ($38 \leq Ct \leq 41$) were retested in order to confirm results obtained. 100 borderline positive samples were retested using Xpert Xpress test, and 73 (73%) of them were confirmed positive. The rest of 100 borderline positive samples were retested using Bio-Speedy test, and 30 (30%) of them were confirmed positive.

Conclusions: Based on the results presented in this study it can be concluded that retesting of borderline positive samples using two different methods is necessary step in order to obtain more reliable results.

Keywords: SARS-CoV-2, Ct value, RT-PCR, Bio-Speedy, Xpert Xpress