

Global Congress on Integrated Healthcare

A joint Conference in Collaboration with United Research Forum, UK and Mutah University, Jordan

Under The Patronage of his Excellency Dr Yousef Goussous

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Endorsement of high quality standards for the molecular detection of Sars Cov-2 in a Reference Laboratory in Athens, Greece

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Abstract

The objective of this study was to evaluate the efficiency of combined use of commercial RT-PCR methods for the molecular detection of SarsCov-2 RNA, in the presence of currently circulating Variants of Concern (VOCs) and how these variants may dynamically interfere with an analytical RealTime PCR result (Ct).

There is evidence that some VOCs may escape from exhibiting adequate fluorescent signal. Additional evidence shows that certain VOCs may present S gene dropout, leading to false negative results as regards the analysis of S gene, whereas certain PCR kit may be more susceptible to S gene dropout compared to others for specific VOC.

Our lab proceeded in the statistical analysis of a sufficient number of External Quality Control samples regarding the schemes INSTAND & UK NEQAS External Quality Assurance of Coronaviruses Genome Detection (RNA). The main result was that a given cycle cutoff (Ct) should be interpreted with care and in tandem with the current stage of the pandemic, as it may not always be directly connected with the viral load.

In parallel with this study, our laboratory tried to illustrate in diagrams the preference of the laboratories, in terms of most commonly used kit manufacturer and genes targets, as derived from the participations in two well-known External Quality Assurance Schemes reflecting current laboratory practices and trends.

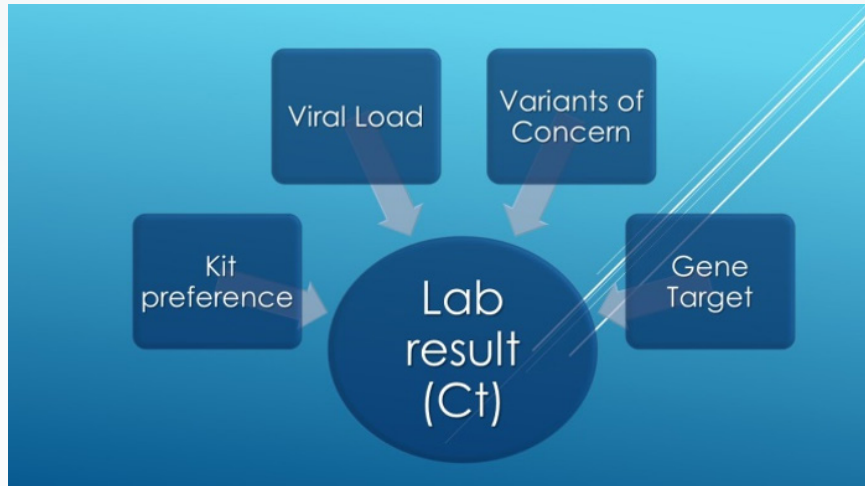
With a strong commitment to Quality, our laboratory's current Quality Assurance Practice follows the combined detection of five SarsCov-2 related genes (S/RdRp, E, N, ORF1a/b) within the same limit of detection, which in turn is proved to lead to enhanced sensitivity and providing a safe protocol for Covid-19 diagnosis and quantification.

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Biography

Kalliopi Chatzantonaki is a highly experienced professional in Quality Control Management in the field of clinical laboratories for more than a decade. She serves as Deputy Quality Control Manager, Authorised Internal Auditor, Head of Clinical Chemistry and Electrophoresis Dpt. She is highly experienced in development and implementation of the Hellenic standard EAOT EN ISO 15189 in all laboratory departments, having proven experience in laboratory management and deep knowledge of various analytical techniques in both theoretical and practical level (Photometry, Nephelometry, immunoturbidimetry, Electrophoresis, immuno chemiluminescence, PCR, RT-PCR, Clotting). She is declared as Approved Signatory in the Hellenic Accreditation System.