

Special Issue

Molecular Diagnostics and Epidemiology of Viral Infections

Message from the Guest Editor

The use of molecular biology methods is crucial for timely and accurate diagnosis in clinical virology, ensuring proper treatment, limiting virus spread, and safeguarding blood products and organ transplants. Polymerase chain reaction (PCR) is the preferred tool for detecting viral nucleic acids due to its ability to detect multiple targets and measure viral load from small samples. Sequencing viral genomes provides comprehensive pathogen information, including drug-resistance mutations for treatment and vaccine development. While Sanger sequencing is widely used, it has limitations in detecting genetic forms present in at least 20% of samples. Next-generation sequencing (NGS) can detect minority variants with lower viral loads but is costly and complex. This Special Issue aims to discuss and compare molecular techniques for viral pathogen detection, develop sensitive tests, and explore Sanger vs. NGS strengths and weaknesses in detecting drug resistance and genotyping viruses for epidemiology.

Guest Editor

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