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Prominence of molecular diagnostics in healthcare sector

Molecular diagnostic techniques offer myriad benefits to clinical and medical settings, delivering sensitive and rapid detection & monitoring approaches for contagious diseases, chronic ailments, and cancer, among others.

BY RAJESH PATEL, CEO, IVD-INDIA, TRIVITRON HEALTHCARE

Technology and innovation are two significant catalysts in the development of any diagnostic product. They act as a game-changer in the direction and major learning in the research and diagnosis.

The best medical decisions are the ones that are made at the right time and hence are paramount, and they are driven by the diagnostics tests which are at the pedestal. Diagnosis is of utmost importance not only in the screening process but also in the prevention and successful management of the disease condition.

Molecular Diagnostics holds its position as one of the most dynamic and growing areas of healthcare. It helps to give a deep understanding of medical research, diagnosis, treatment, and overall

management of various diseases. It acts as a magnifying glass in highlighting the structure and onset of disease. Hence, molecular diagnostics enables healthcare providers to pave the way towards customised treatments with diagnosis of the concern.

Today, Molecular Diagnostics covers numerous laboratory tests and now is exploring many more areas of laboratory medicine that includes genetics, oncology, and infectious diseases. Advancements in this segment will improve the reliability and will help accelerate the process of treatment or management of various diseases thereby reducing the overall time of disease control.

Advances in Molecular Diagnostics such as multiplex real-time PCR is at the

1. Molecular diagnostics has undergone a period of rapid development and growth in the last decade.

pinnacle because of their highest sensitivity and specificity. These technologies can be used for the specific diagnosis and monitoring of multiple infections like HIV, TB, and sexually transmitted diseases that can lead to more reliable and cost-effective diagnostic insights.

The Real-Time PCR test is considered the standard method of Coronavirus detection as it helps amplify a small segment of virus genetic material and the extracted viral RNA is converted into cDNA. It is further amplified in real-time using a fluorescent dye. Overall Real-Time PCR is the most commonly preferred test for diagnosing COVID-19 because of its high sensitivity and specificity.

At the peak of the COVID-19 pandemic, in the first and second wave, the molecular diagnostic assays helped in rapid and precise detection of the virus in the infected person that enabled the isolation of the affected individuals, preventing further transmission of infection that assisted to provide immediate care for improved health.

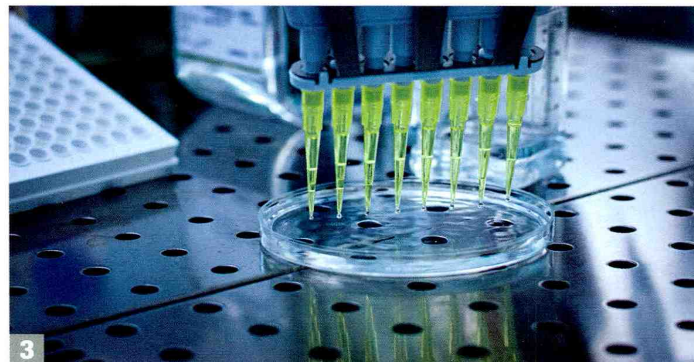
Real Time-PCR assays, instruments and automated extracted systems developed by Triviron Healthcare played a crucial role in the fight against COVID-19. The rapid spread of coronavirus disease highlighted the cardinal importance of rapid and accurate diagnostic tests and molecular diagnostics assays as they played a major role in the diagnosis of COVID-19.

Diagnostic tests are crucial in analyzing the consequences of contagions (like virus) and also in their timely detection. The COVID-19 pandemic has led to unprecedented investment in the development of molecular diagnostic assays that help in the detection of viral strains for both disease detection and also helped in vaccine development.

Molecular technologies offer an effective solution for communicable disease diagnostics, as they are quick and flexible. Tools like PCR have enabled clinicians to



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opt for more sensitive approaches for the screening, detection, and monitoring of genetic disorders, cancers, infectious, and chronic diseases. Diagnosis has an empirical role in such disease diagnosis of such novel pathogen for which the population is not pre-immune, help prevent the spread of the disease. [IR](#)



Rajesh Patel, CEO, IVD-India, Triviron Healthcare has rich and diverse experience in pharmaceuticals, clinical research and IVD/ medical devices segment.

2. Molecular diagnostics is the outcome of the interplay among laboratory medicine, genomics knowledge, and technology in the field of molecular genetics, with significant discoveries in the field.

3. The use of molecular diagnostics has significantly improved the yield of detection.