

Biosensor-Based Real-Time Monitoring Systems for Virus Detection and Health Safety Optimization

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Abstract: The increasing global threat of viral infections has emphasized the need for effective and timely virus detection systems to safeguard public health. Biosensor-based real-time monitoring systems offer a promising solution by enabling rapid, on-site detection of viruses in biological samples. This study explores the integration of advanced biosensors with real-time monitoring technologies to optimize health safety measures. The proposed system uses various biosensing techniques, such as electrochemical, optical, and mass-based sensors, to detect viral biomarkers and pathogens. Coupled with real-time data processing, these systems can provide immediate results, enabling rapid decision-making and preventive actions. The application of such biosensor-based systems in various settings, including healthcare facilities, airports, and public spaces, can significantly enhance virus surveillance and control efforts. The results suggest that these systems have the potential to revolutionize public health safety by providing timely, accurate, and non-invasive virus detection.

Keywords: Biosensors, real-time monitoring, virus detection, health safety, biomarkers, public health.

REQUEST FOR FULL TEXT

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