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Advances in Biosensor Technology for Analysis of Food Safety and Quality Control

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Message from the Guest Editors

Ensuring global food safety and maintaining quality standards are paramount concerns, driving the escalating demand for rapid, sensitive, and cost-effective analytical techniques. Biosensor technology has emerged as a potent solution. Recent strides in biosensor platforms have substantially elevated detection the limits for various contaminants. The miniaturization and integration of biosensors with microfluidic systems have ushered in on-site monitoring capabilities, diminishing reliance on centralized laboratories and streamlining decision-making processes within the food industry. Moreover, the integration of nanomaterials and nanotechnology has bolstered biosensor sensitivity and selectivity, enabling precise detection of trace-level analytes. Advanced signal transduction mechanisms, including electrochemical, optical, and piezoelectric transducers, have broadened the spectrum of detectable analytes and achieved multiplexing capabilities. Recent advancements in biosensor technology have democratized access to food safety monitoring, empowering consumers, producers, and regulators alike to conduct on-the-spot analyses with minimal expertise.



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Special Issue



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Message from the Editor-in-Chief

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