

biosensors



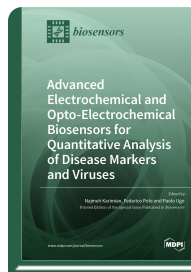
Special Issue Reprint

Advanced Electrochemical and Opto-Electrochemical Biosensors for Quantitative Analysis of Disease Markers and Viruses

www.mdpi.com/books/reprint/5697

Edited by
Najmeh Karimian
Federico Polo
Paolo Ugo

ISBN 978-3-0365-4499-1 (Hardback)
ISBN 978-3-0365-4500-4 (PDF)



The recent global events of the SARS-CoV-2 pandemic in 2020 have alerted the world to the urgent need to develop fast, sensitive, simple, and inexpensive analytical tools that are capable of carrying out a large number of quantitative analyses, not only in centralized laboratories and core facilities but also on site and for point-of-care applications. In particular, in the case of immunological tests, the required sensitivity and specificity is often lacking when carrying out large-scale screening using decentralized methods, while a centralized laboratory with qualified personnel is required for providing quantitative and reliable responses. The advantages typical of electrochemical and optical biosensors (low cost and easy transduction) can nowadays be complemented in terms of improved sensitivity by combining electrochemistry (EC) with optical techniques such as electrochemiluminescence (ECL), EC/surface-enhanced Raman spectroscopy (SERS), and EC/surface plasmon resonance (SPR). This Special Issue addresses existing knowledge gaps and aids in exploring new approaches, solutions, and applications for opto-electrochemical biosensors in the quantitative detection of disease markers, such as cancer biomarkers proteins and allergens, and pathogenic agents such as viruses. Included are seven peer-reviewed papers that cover a range of subjects and applications related to the strategies developed for early diagnosis.



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