Mini review

Electrochemical, Electrochemiluminescent and Photoelectrochemical Immunosensors for Procalcitonin Detection: A review

Ming La

College of Chemistry and Chemical Engineering, Pingdingshan University, Pingdingshan, Henan 467000, People's Republic of China

E-mail: mingla2011@163.com

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Procalcitonin (PCT) is a promising biomarker for identification of the origin and severity of sepsis, which is a deadly body infection. With the aim of early diagnostics of PCT, various PCT analytical technologies have been designed and applied all over the world. Electrochemistry-based immunosensors have attracted wide attention due to their low-cost, simplicity, sensitivity and simultaneous sensing performance, which can transduce the immunoreaction into detectable signal on functionalized solid surface. This review summarizes the development of electrochemistry-based immunosensors for PCT. More importantly, we also highlight nanomaterials-based signal amplification strategies that can remarkably improve the sensitivity of immunosensors. This work will be beneficial for the development of novel electrochemistry-based immunosensors for the detection of PCT and other important biomarkers.

Keywords: procalcitonin; electrochemistry; electrochemiluminescence; photoelectrochemistry; signal amplification

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