

Development of Electrochemical Impedance Immunosensor for Sensitive Determination of Myoglobin

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Effective bio-recognition element immobilization on the surface of the transducer is significantly important for fabricating an immunosensor. *Pithophora. Oedogonia*, a green algae, has been employed as the reducing agent in this study to accomplish the biosynthesis of Au nanoparticles. The whole procedure of synthesis occurred rapidly where Au nanoparticles were produced within 1 h after the reaction between Au salt and algal extract. Subsequently, electrochemical impedance myoglobin immunosensor was constructed using the obtained AuNPs. A wide detection range can be achieved from 0.02 to 1 μ M either in phosphate buffered saline or the whole serum, Furthermore, the as-fabricated immunosensors is potential to be utilised for the detection of myoglobin.

Keywords: *Pithophora. oedogonia*; Electrochemical impedance immunodetection; Myoglobin; Indium-tin-oxide; Acute myocardial infarction

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