A label-free Electrochemical Immunosensor for Anti-Mullerian Hormone Detection on Graphene-Au Nanocomposite

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doi: 10.20964/2017.08.40

Received: 23 April 2017 / Accepted: 2 June 2017 / Published: 12 July 2017

This study reported the construction of a graphene sensor based on poly(3,4-ethylenedioxythiophene)/Au nanoparticles, abbreviated as AuNPs/PEDOT/GR. The fabrication process consisted of two steps. First, the synthesis of PEDOT nanorods grown on graphene oxide nanosheets (PEDOT/GO) was conducted via liquid-liquid interfacial polymerization. Then, HAuCl₄ was chemically reduced by NaBH₄. The determination of anti-Mullerian hormone (AMH) was realized using a sensitive and facile AuNPs/PEDOT/GR-based immunosensor by measuring the electrochemical response variation before and after the immunoreaction.

Keywords: Anti-mullerian hormone; Poly(3,4-ethylenedioxythiophene); Electrochemical immunoassay; Graphene; Au nanoparticles

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