Electrochemical Determination of Amsacrine at a ds-DNA Modified Graphene Carbon Paste Electrode and its Application as a Label-free Electrochemical Biosensor

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The interaction between amsacrine and double stranded deoxyribonucleic acid (ds-DNA) was studied by a graphene paste electrode (GPE) and incubation solution using differential pulse voltammetry (DPV). A simple and sensitive biosensor was made using the mentioned interaction for determining amsacrine. DPV shows a linear dynamic range from 7.0×10^{-7} to 1.0×10^{-4} M for amsacrine. The use of this screening method for analyzing real sample was studied with applying the proposed method to determine amsacrine in urine and blood serum. Generally, the findings indicated a DNA sensor with the ability to analyze the amsacrine in real samples effectively.

Keywords: Amsacrine; ds-DNA; Graphene; Carbon paste electrode

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