

Short Communication

A Facile and Effective Electrochemical DNA Biosensor for the Detection of Gardnerella Vaginalis Based on One-Step BSA Blocked Electrode

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An electrochemical biosensor based on bovine serum albumin blocked functional electrode (BSA-E) for the precise detection of specific gene of Gardnerella Vaginalis was developed in this work. BSA assembled gold electrode was used for constructing the electrochemical sandwich-type DNA biosensor to achieve excellent sensitivity, good reproducibility. And a low detection limit of 0.5 pM and a wide linear range were obtained under optimized condition. The wonderful performance of the proposed sensor was attributed to the application of BSA which could effectively to prevent the possible nonspecific adsorption of target DNA and protein (avidin-HRP) on the surface of Au electrode. The proposed approach provides another effect choice for the determination of Gardnerella Vaginalis.

Keywords: Gardnerella Vaginalis; Electrochemical DNA biosensor; Amperometric i-t curve; Bovine serum albumin; Gold electrode

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