

Carbon nanomaterials based biosensors for electrochemical detection of biointeractions

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Abstract

Biosensors provide a sensitive and selective detection of nucleic acids, drugs, proteins, toxins etc. Advanced biosensors based on nanomaterials could be significantly applied to the areas of genomics, proteomics, biomedical diagnostics and drug discovery due to the advantages of different nanomaterials having unique electronic, optical, mechanical, and catalytic properties. Carbon based nanomaterials such as, carbon nanotubes, carbon nanofibers etc. have different applications in drug delivery, tissue engineering, cancer therapy and diagnosis including biosensors.

Electrochemical biosensors have an essential specificity based on biorecognition reactions resulting with the high sensitivity on the detection of target analytes; such as, nucleic acids, drugs, proteins. This study is overviewed the recent progress on electrochemical biosensors based on carbon nanomaterials, and discussed with the further applications.

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