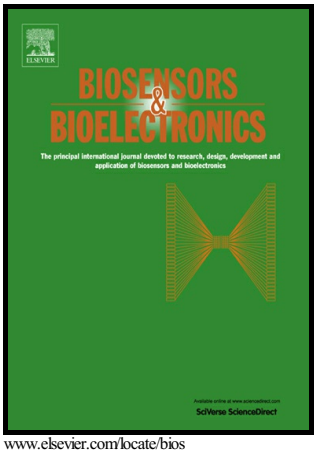

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Abstract

MicroRNAs have been involved into many biological processes and are regarded as disease biomarkers. Simple, rapid, sensitive and selective method for microRNA detection is crucial for early diagnosis and therapy of diseases. In this work, sensitive fluorescence assay was developed for microRNA-21 detection based on DNA polymerase induced strand displacement amplification reaction, Mg^{2+}-dependent DNAzyme catalysis reaction, and magnetic separation. In the presence of target microRNA-21, amounts of trigger DNA could be produced with DNA polymerase induced strand displacement amplification reaction, and the trigger DNA could be further hybridized with signal DNA, which was labeled with biotin and AMCA dye.