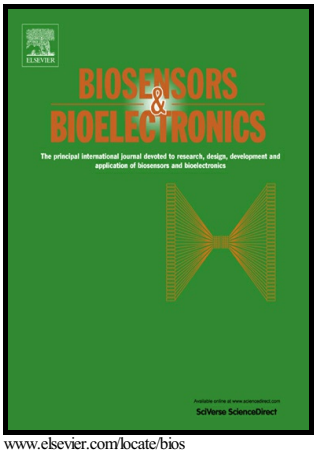

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A PCR-free electrochemical method for messenger RNA detection in cancer tissue samples

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Abstract

Despite having reliable and excellent diagnostic performances, the currently available messenger RNA (mRNA) detection methods mostly use enzymatic amplification steps of the target mRNA which is generally affected by the sample manipulations, amplification bias and longer assay time. This paper reports an amplification-free electrochemical approach for the sensitive and selective detection of mRNA using a screen-printed gold electrode (SPE-Au). The target mRNA is selectively isolated by magnetic separation and adsorbed directly onto