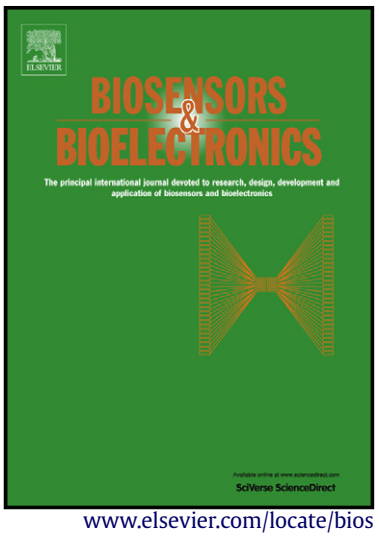

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PII: S0956-5663(14)00339-X
DOI: http://dx.doi.org/10.1016/j.bios.2014.05.007
Reference: BIOS6768

To appear in: *Biosensors and Bioelectronics*

Received date: 21 February 2014
Revised date: 1 May 2014
Accepted date: 2 May 2014

Cite this article as: Ting-Yu Liu, Fang-Yuan Yeh, I-Hua Tseng, Chung-Wei Yang, Li-Che Lu, Chih-Sheng Lin, Gold nanoparticles conjugates-amplified aptamer immunosensing screen-printed carbon electrode strips for thrombin detection, *Biosensors and Bioelectronics,* http://dx.doi.org/10.1016/j.bios.2014.05.007

Gold nanoparticles conjugates-amplified aptamer immunosensing screen-printed carbon electrode strips for thrombin detection

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Running title: AuNPs conjugates-amplified aptasensing SPCE strips

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Abstract

Thrombin plays the role in cardiovascular diseases and regulates many processes in inflammation and could be a feature of many pathological conditions, including the thromboembolic disease, cancer and neurodegenerative diseases. An ultrasensitive and amplified electrochemical sandwich assay using screen-printed carbon electrode (SPCE) strips for thrombin detection was established in this study. The conductivity and sensing performance of the carbon electrodes were enhanced by using gold nanoparticles (AuNPs). The aptamer addressed on the strips was used as primary probe to capture thrombin in the detected samples. An amplifier was invented for recognizing thrombin captured on the SPCE,