

Electrodeposition of Advanced SPR Thin Film for Ischemia Modified Albumin Levels Determination and Potential Hypertension Diagnosis

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In this work, a novel silver dendrite sensor, which was an enhancement based on the mixed self-assembled monolayers, was studied and employed to fabricate a surface plasmon resonance (SPR) immunosensor for the detection of ischemia modified albumin (IMA). The limit of the IMA detection was enhanced to 4.7 ng/L by the proposed silver dendrite, in comparison with the direct binding SPR measurement. Besides, no interferent was recognized, which could result in the false positive outcomes. These results indicated that a facile method without label could be supplied by the SPR biosensor with remarkable properties to improve the sensitivity of the assay for the further diagnose of hypertension.

Keywords: Biosensor; Surface plasmon resonance; Ischemia modified albumin; Hypertension; Silver dendrites

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