Development of a Semiconductor-Based Electrochemical Sensor for Interferon- γ Detection

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This report described an excellent method for interferon gamma (IFN γ) detection using a label-free electrochemical impedance immunosensor. TiO₂ NPs prepared using a simple hydrothermal strategy were applied to the immobilization of the IFN γ monoclonal antibody. The relative increase in the impedance value was proportional to the logarithmic value of the IFN γ concentration (0.001 - 0.2 ng/mL), and the limit of detection (LOD) was calculated as 0.74 pg/mL. This work presented a facile, novel and highly sensitive strategy.

Keywords: Interferon gamma; Semiconductor; TiO₂ NPs; Immunosensor; Electrochemical impedance spectroscopy

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