Short communication

Electrochemical Detection of Kinase Activity by Measuring the Surface Charge Change of Peptide Substrate on Gold Electrode

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Kinase can be used in clinical analysis as the biomarker for disease diagnosis. Herein, we proposed a simple and label-free electrochemical method for kinase detection. The method was based on the charge change of peptide substrate immobilized on the gold electrode. The change was measured by electrochemical impedance spectroscopy and the value was proportional to the concentration of kinase. The method shows satisfactory results for the analysis of kinase inhibitors, thus exhibiting great potential for diagnosis of kinase-related diseases and discovery of novel inhibitor drugs.

Keywords: Phosphorylation; post-translational modification; kinase; electrochemical impedance spectroscopy; carbodiimide

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