Mini review

Electrochemical Assay Methods for Protein Kinase Activity

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Protein phosphorylation catalyzed by protein kinase is the most frequent post-translational modification, and plays a critical role in intracellular signal transduction pathways. Deregulation of kinase activity is a frequent cause of various human diseases, including cancers. Moreover, kinase is widely regarded as a family of extremely important molecular target for drug therapy. Therefore, sensitive and specific detection of protein kinase activity and inhibition is essential to the prerequisite and foundation for the study of fundamental biochemical processes, the clinical diagnosis and drug discovery. In recent years, tremendous advances have been achieved in electrochemical biosensors for protein kinase activity. This article reviews the recent developments in the designed strategies for electrochemical detection of kinase.

Keywords: Phosphorylation; kinase; electrochemistry; biosensors

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