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Research project - Recent studies show that electrochemical biosensors offer simple, robust and low-cost solution for point-of-care applications. To meet rigorous requirements of early disease diagnosis and other medical applications, nanomaterials have been investigated to increase sensitivity and selectivity of electrochemical sensors. Label-free and sandwich-type electrochemical immunoassays involving single and multiplex analyses have been demonstrated for detection of cancers. Biosensors for detection of metabolites also have been demonstrated. Our sensors will benefit the field of cancer diagnosis. We also developed new materials such as 2D nanomaterials for use in improvement of the sensor performances in terms of sensitivity, selectivity, and fast detection.

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