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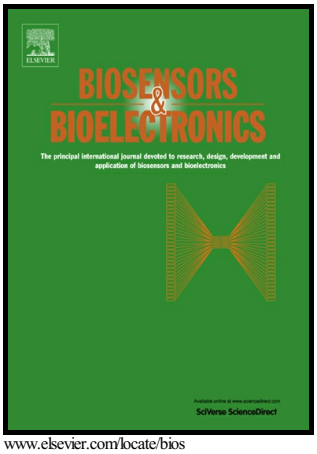


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# Trypsin Electrochemical Sensing using Two-Dimensional Molecularly Imprinted Polymers on 96-Well Microplates

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**Abstract:**

Molecular imprinting is an efficient technology to create artificial receptors with antibody-like binding properties for a variety of applications such as separation and sensing. In this work, a new sensing method was introduced by combining a two-dimensional molecularly imprinted polymer film (2D-MIPs) with copper oxide nanoparticles (CuO NPs) labeling for signal conversion and amplification. CuO labeling can effectively monitor the thickness of 2D-MIPs to achieve the best imprinting effect. Trypsin imprinted polymer based electrochemical sensor on 96-well microplates was constructed and a good dynamic response was observed in the range of 0.0005 to 0.5 μg/mL. Furthermore, detections of trypsin in fetal bovine serum were demonstrated using the imprinted polymer thin films. Our electrochemical sensors possess an excellent specificity, fast kinetics, high sensitivity and low cost, which have great potential in biological analysis.