A NEW IMMUNOSENSOR FOR RAPID DETECTION OF GIBBERELLIC ACID
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Gibberellins are phytohormones essential for normal plant growth while gibberellic acid (GA₃) is one of the most active forms among more than 120 naturally occurring gibberellins. Accurate analysis of gibberellins is important for crop production. Based on immunosensor technology, a rapid, selective, sensitive, accurate, and inexpensive immunosensor for gibberellic acid detection was designed by coupling immunoassay with the square wave anodic stripping voltammetry (SWASV) technique involving copper ion labeled antigen in the competitive immunoreaction. The response signal expressed as the percentage of current reduction (CR %) (y) is linearly related to the concentration of GA₃ (x) in the 1µg/mL to 150µg/mL range with a regression equation of the form y=0.44x +15.59 and a correlation coefficient of 0.99. The results of the immunosensor assay for GA₃ in rice grains showed similar sensitivity with traditional HPLC and ELISA assays.