

流动注射化学发光免疫分析研究II. 偶合反应测定HRP及其标记物

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摘要 本文详细考查了壳质胺,多孔玻璃和粗孔硅胶作为流动注射免疫分析免疫反应器基质的可行性,在此基础上将HRP催化H₂O₂氧化K₄Fe(CN)₆生成K₃Fe(CN)₆的反应,与H₂O₂和K₃Fe(CN)₆对luminol的共氧化化学发光反应相偶合首次提出了一种新的流动注射免疫分析的最终检测手段,由于酶促反应与化学发光反应在检测系统的不同位置进行,因而这种方法克服了已报道的流动注射化学发光免疫分析不能协调酶催化和化学发光反应的最佳pH,底物与酶不能充分接触及载体对光的散射等缺点,具有灵敏度高、精密性好等优点,该方法测定HRP及其标记物检测限均可达fmol级,测定时间为1-2min,相对标准偏差为3.9%。

关键词 [偶合反应](#) [化学发光](#) [免疫分析](#) [流动注射分析](#) [HRP](#) [标记化合物](#)

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Studies on flow-injection chemiluminescence immunoassay II. Determination of HRP and its conjugates with coupled reaction

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Abstract In this paper chitosan, controlled pore glass and silica-gel have been investigated with respect to its potentiality of being used as solid support of flow-injection immunoassay. A new flow-injection immunoassay end-point detection method has also been developed on the basis of coupling the reaction of H₂O₂ and K₄Fe(CN)₆, catalyzed by HRP, with H₂O₂ and K₃Fe(CN)₆ co-oxidized chemiluminescence reaction of luminol. As enzymatic and chemiluminescent reaction were generated at different sites of the detection system. The general shortcomings of such as unable to select a optimum pH for both enzymatic and chemiluminescent reaction, incomplete contact between enzyme and substrate, and scattering of support have been eliminated. It has the advantages of high sensitivity and good accuracy. HRP and its conjugates at f mol level can be detected within 1-2 min. and the relative standard deviation is 3.9%.

Key words [COUPLING REACTION](#) [CHEMILUMINESCENCE](#) [FLOW INJECTION ANALYSIS](#) [LABELLED COMPOUNDS](#)

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