

研究论文

纳米金聚集复合物放大的计时电位法测定补体C<sub>3</sub>

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摘要 报道了一种用金标复合物放大的计时电位法测定补体C<sub>3</sub>的免疫检测方法。

对影响传感器响应的因素如蛋白A固定浓度、抗体包被过程的pH及浓度、金标物混合比等进行了考察。

在优化的实验条件下,传感器的信号响应和补体C<sub>3</sub>的浓度在0.12~117.3 ng/mL范围内具有良好的线性关系,

检出限达0.02 ng/mL。

关键词 [计时电位法](#) [补体C<sub>3</sub>](#) [纳米金](#) [免疫分析](#)

分类号

## Chronopotentiometry Based on Nano-Au Labeled Aggregate Enlargement Used for the Immunoassay of Complement C<sub>3</sub>

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**Abstract** A novel electrochemical immunoassay method based on Au nanoparticle labeled immunocomplex enlargement used for detection of complement C<sub>3</sub> was proposed in this paper. When the aggregates formed from nano-Au labeled goat-anti-human C<sub>3</sub> and nano-Au labeled rabbit-anti-goat IgG were immobilized on the electrode surface by sandwich method (antibody/antigen/aggregate), the electrochemical signal of the electrode was enlarged greatly. Fabrication of the immunoelectrode and the effects of experimental conditions on the performances of immunoassay, such as concentration of protein A, pH of incubating solution and the ratio of nano-Au labeled goat-anti-human C<sub>3</sub> to nano-Au labeled rabbit-anti-goat IgG, were discussed respectively. The formed immunosensor could quantitatively determine complement C<sub>3</sub> in the range of 0.12~117.3 ng/mL, and the detection limit was 0.02 ng/mL.

**Key words** [chronopotentiometry](#) [complement C<sub>3</sub>](#) [nano-Au](#) [immunoassay](#)

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