

研究简报

化学发光磁酶免疫法检测O157:H7大肠埃希菌

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摘要 通过自行制备的免疫磁珠结合新型发光底物(AMPPD), 改进了化学发光磁酶免疫检测法, 对人工猪肉样品中O157:H7大肠埃希菌进行了检测, 并与人工计数法进行了比较.

关键词 [免疫分析](#) [化学发光](#) [磁性微球](#) [大肠埃希菌](#)

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Determination of *Escherichia Coli*. O157:H7 in Food Based on Chemiluminescent Magnetic Enzyme-linked Immunoassay

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Abstract A high sensitive chemiluminescent magnetic enzyme-linked immunoassay method was established for *Escherichia coli*. O157:H7 determination. The bacterium antibody was labeled by alkaline phosphatase(ALP) that catalyzed the decomposing of substrate 3-(2-spiroadamantane)-4-methoxy-4(3-phosphoryloxy)phenyl-1,2-dioxetane(AMPPD) to give the light emission. The sensitivity of the method is 8.5×10^4 Cell/mL with a linear range of 1.0×10^5 — 5.0×10^7 Cell/mL. The intra- and inter-assay CVs are 14.8% and 20.0% in pork samples, respectively. The correlation coefficient of present and the standard plate counting method is 0.981. The experiments with the spiked samples show that this method has great potential to be applied to detecting the concentration of *Escherichia coli*. O157:H7 in a variety of samples.

Key words [Immunoassay](#) [Chemiluminescence](#) [Magnetic beads](#) [Escherichia coli](#).

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