

عنوان مقاله:

High Sensitive Detection of Staphylococcal Enterotoxin B by Silver Enhanced Lateral Flow Assay

محل انتشار:

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خلاصه مقاله:

Background: Staphylococcus aureus is one of the most important microorganisms that can colonize the human body and cause various types of human diseases by secreting virulence factors. The lateral flow assay (LFA) is one of the well-known commercial immunoassay methods that provides a high sensitive and rapid approach to monitoring infectious agents in blood, serum and urine. LFA has been considered as an ideal immunochromatographic test. Materials & Methods: Anti Staphylococcal Enterotoxin B (SEB) antibodies were conjugated to 20 nm colloidal gold nanoparticles and were applied in assembled lateral flow layer. Suitable reagents were prepared and used in silver enhancement method. We designed a single immunochromatographic test strip to detect SEB. Results: In this study, the smallest amount of SEB identified using sandwich LFA method was 10 ng/mL. We also established a "silver enhanced method". Silver could improve the sensitivity detection of the test 100-fold greater than the previously mentioned sandwich LFA. Conclusion: Regarding the high sensitivity of the new method for detection and measurement of SEB (0.1 ng/mL), this strip test offers great promise for a rapid technique instead of the other .diagnostic SEB tests in laboratories for the first time

كلمات كليدى:

Immunochromatographic test strip, Lateral flow assay, Rapid detection, Silver Enhancement, Staphylococcal enterotoxin B, Test strip, Immunochromatographic test strip, Lateral flow assay, Rapid detection, Silver Enhancement, Staphylococcal enterotoxin B, Test strip

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