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Rapid detection of *Vibrio parahaemolyticus* in oyster via loop-mediated isothermal amplification assay

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Vibrio parahaemolyticus is found in the highest incident among pathogens associated with seafood-borne disease. It causes acute gastroenteritis in humans when ingestion of live pathogen. Therefore, early detection of *V. parahaemolyticus* is very important in order to prevent sickness caused by consumption of contaminated seafood. The reference method for detection of *V. parahaemolyticus* is its culture and biochemical test. Unfortunately, such method is labor-intensive and time-consuming. Thus, it is developed a loop-mediated isothermal amplification (LAMP) assay for rapid and specific detection of *V. parahaemolyticus* in oyster sample. The optimal conditions for LAMP reaction were found to be 2 mM MgSO4, 1.2 mMdNTPs and 0.2 M betaine at 65°C for 30 min. It was able to detect genomic DNA of *V. parahaemolyticus* as low as to 1 fg/µl. The assay showed 100% detection accuracy to *V. parahaemolyticus* against 6 other species of Vibrio and 17 non-Vibrio spp. For spiked oyster sample without enrichment process, the detection limit of *V. parahaemolyticus* was 100cfu/g. Therefore, the LAMP assay developed in this study provided high sensitivity and specificity of detection toward *V. parahaemolyticus* with a great potential for future field detection of *V. parahaemolyticus* in raw seafood samples.

Biography

Chamjuree Malaivichit is an MSc student at the Faculty of Medical Technology, Mahidol University, Thailand. Now, she is challenged with the development of technology for rapid screening of V. parahaemolyticusin order to ensure food safety.

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