

**Food testing by loop-mediated isothermal amplification (lamp) for microbial contaminants****Nehdia Azhar**

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Mycotoxins producing fungi, parasites, bacterial pathogens and their toxins are the major contaminants in food. These foodborne pathogens are the most notable factors influencing food safety and economic stability of country. During past decades, myriad of analytical methods have been developed for food safety testing. Loop-mediated isothermal amplification (LAMP) is a novel analytical tool for detection of microbial pathogens in food samples. Under isothermal conditions LAMP amplifies nucleic acid or DNA in any heating block or water bath allowing detection limits of approximately 10-100 genome equivalents. LAMP diagnoses the pathogen by targeting DNA instead of protein antigen and viable cells. It doesn't require any sophisticated or expensive equipment which is needed to operate with repeated cyclo-thermal amplifications like PCR. Impure sample materials could be run in LAMP avoiding time consuming sample preparation protocols with high sensitivity and specificity. Mycotoxigenic fungi, gram positive, gram negative bacteria and spoilage causing yeast can be detected by LAMP-ready to use kit based analytical approach in several food items conveniently in one step reaction. It can be a potential tool in identification of food safety hazard to facilitate decisions regarding future analysis.

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