

## L.A.M.P.

Despite legal regulations, undesired porcine DNA has been found in food products labelled as halal, reflecting potential fraud or contamination. For example, porcine DNA traces have been detected in lacto-ovo-vegetarian candies, corroborating unethical or unsafe practice during the manufacturing stages. Therefore, disclosing full information on the ingredients contained in commercial food products with proper authentication check is essential for consumers to know what they are actually eating, for religious and health concerns. To determine the traces of DNA of specific species origin in finished food products is challenging due to DNA degradation and complexity of the food composition. Moreover, current conventional and real time PCR techniques commonly used for DNA based authentication is complex, expensive, time consuming, and requires skillful personnel and special equipment. As an alternative, loop mediated isothermal amplification (L.A.M.P.) offers a simpler procedure that works at a single constant temperature, and does not require a thermal cycler (PCR). This method uses a fluorescent DNA based detection, so that reading can be readily observed or measured upon direct reaction of target DNA with the designed regiment of DNA primers. LAMP is a relatively new DNA amplification technique that due to its simplicity and rapidity may serve as a useful assay for species specific DNA screening and authentication, particularly in the food industry.

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Light Base

The light base is a simple and easy-to-use device that can be used to detect the presence of target DNA in a sample.





