Australian Government
Department of Agriculture and Water Resources

foodproof® *Listeria monocytogenes* Detection Kit, 5'Nuclease and Hybridization Probes – AOAC 070401

SCOPE

This method is applicable to food and environment samples

PRINCIPLES

The foodproof® Listeria monocytogenes Detection Kit rapidly amplifies specific DNA fragments unique to the target organism by PCR. Initially the organisms are allowed to grow in half Fraser broth followed by PCR assays for the presence of target genes. Samples identified as positive (initial reactive) must be confirmed using the AS 5013.24.1 method.

The detection of *L. monocytogenes* is broken down into:

- **Primary enrichment**
  For meat and meat products a 1:10 dilution of the sample is enriched in pre-warmed half Fraser broth at 30°C for 48 h. A positive control culture must be run through the enrichments and initial screening procedure daily or when testing is carried out.

- **Screening**
  DNA samples are extracted with foodproof® ShortPrep II Kit following the manufacturer's instructions. Extracted DNA samples are screened for the presence of specific gene using the PCR with foodproof® *Listeria monocytogenes* Detection Kit as per manufacturer's recommended protocol. Samples that are negative after the initial screen are reported as negative.

- **Confirmation of Listeria monocytogenes**
  In the case of positive, undecided or invalid results the primary enrichment broth should be tested using AS 5013.24.1 (starting at the appropriate stage of analysis i.e. selective enrichment). Or based on the findings of a cause analysis, the laboratory may choose to analyse the undecided or invalid result sample by repeating PCR analysis.

  Confirmation must be carried out at a department approved laboratory using AS 5013.24.1

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