Neogen® Molecular Detection Assay (MDA) 2 – *Salmonella Method* - AOAC 2016.01

SCOPE

This method is applicable to:

- Raw ground beef and other selected foods.

PRINCIPLES

The Neogen® Molecular Detection Assay (MDA) 2 – *Salmonella* method is used for the rapid detection of *Salmonella* in foods. All samples identified as potentially positive for *Salmonella* using this method must be confirmed using AS 5013.10.

The detection of *Salmonella* spp. is broken down into four stages:

- **Pre-enrichment in non-selective liquid medium**
  Meat samples (25 g) are enriched in 225 mL of pre-warmed (41.5 ± 1°C) ISO BPW enrichment broth. Meat samples (325g) are enriched in 975 mL of ISO BPW. Homogenize thoroughly for two minutes (use of filter bags is recommended). Incubate at 41.5 ± 1°C for 10-24 hours. For carcass sponges, buffered peptone water is added to the moistened sponge to bring the total volume to 60-100 mL and the sample incubated at 41.5 ± 1°C for 10-24 h.

  A positive control culture must be run through all procedures daily or when testing is carried out. The sample and enrichment broth must be at the enrichment temperature for a minimum of 10 hours.

- **Neogen system for screening *Salmonella***
  Salmonella is screened in the sample following the manufacturer's recommended protocol. Neogen Molecular Detection Assay *Salmonella* method uses isothermal amplification of unique DNA target sequences and bioluminescence to detect the amplified sequences.

- **Confirmation**
  In all cases of Neogen -positive, Neogen -inspect or a Neogen -signal-error the ISO BPW must be tested using AS 5013.10 (starting at the selective enrichment stage of the analysis). Confirmation must be carried out at a department approved laboratory.

CHECKLIST

Pre-enrichment	Is the ISO BPW enrichment broth warmed to 41.5 ± 1°C before use?	_____
	Is the correct amount of enrichment broth used for the weight of sample analysed?	_____
	Is a positive control run with each batch of samples analysed?	_____
	Are reference cultures inoculated into primary enrichment broth at a level of 10 to 100 cells?	_____
	Is enrichment carried out at 41.5 ± 1°C and is the enrichment broth and sample at 41.5 ± 1°C for a minimum of 10 hours?	_____
Screening	Are the manufacturer's instructions reproduced in the laboratory manual and followed without modification?	_____
	Are technicians familiar with and trained in the operation of Neogen Molecular Detection System?	_____
	Is the shelf-life of media, reagents and kits controlled?	_____
	Are Neogen MDA Assay 2 kits stored at 2-8°C?	_____
	Are open kits used within 60 days?	_____
Confirmation	Are all suspect *Salmonella* isolates sent to a reference laboratory to be serotyped?	
	Is ISO BPW supplied to off-site laboratories for confirmation following AS 5013.10?	_____
	If *Salmonella* confirmation is done in-house, does confirmation occur using AS 5013.10?	_____
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