

ISO 11290-1:2017-05 (E)

Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. - Part 1: Detection method

| Contents | | Page |
|--------------------|---|-------------|
| Foreword | | v |
| Introduction | | vi |
| 1 | Scope | 1 |
| 2 | Normative references | 1 |
| 3 | Terms and definitions | 2 |
| 4 | Principle | 2 |
| 4.1 | General | 2 |
| 4.2 | Primary enrichment in a selective liquid enrichment medium with reduced concentration of selective agents (half-Fraser broth) | 2 |
| 4.3 | Secondary enrichment with a selective liquid enrichment medium with full concentration of selective agents (Fraser broth) | 3 |
| 4.4 | Plating out and identification | 3 |
| 4.5 | Confirmation | 3 |
| 5 | Culture media and reagents | 3 |
| 6 | Equipment and consumables | 3 |
| 7 | Sampling | 4 |
| 8 | Preparation of test sample | 4 |
| 9 | Procedure | 4 |
| 9.1 | Test portion and initial suspension | 4 |
| 9.2 | Primary enrichment | 4 |
| 9.3 | Secondary enrichment | 5 |
| 9.4 | Plating out and identification | 5 |
| 9.4.1 | General | 5 |
| 9.4.2 | Agar <i>Listeria</i> according to Ottaviani and Agosti | 5 |
| 9.4.3 | Second selective medium | 6 |
| 9.5 | Confirmation of <i>Listeria monocytogenes</i> or <i>Listeria</i> spp | 6 |
| 9.5.1 | Selection of colonies for confirmation | 6 |
| 9.5.2 | Confirmation of <i>L. monocytogenes</i> | 6 |
| 9.5.3 | Confirmation of <i>Listeria</i> spp | 10 |
| 9.6 | Interpretation of morphological and physiological properties and of the biochemical reactions | 11 |
| 9.7 | Additional characterization of isolated strains (optional) | 11 |
| 10 | Expression of results | 11 |
| 11 | Performance characteristics of the method | 11 |
| 11.1 | Method validation studies | 11 |
| 11.2 | Sensitivity | 11 |
| 11.3 | Specificity | 11 |

| | | |
|------|--|----|
| 11.4 | Level of detection (LOD50) | 11 |
| 12 | Test report | 12 |
| 13 | Quality assurance | 12 |
| | Annex A (normative) Diagram of procedure | 13 |
| | Annex B (normative) Composition and preparation of culture media and reagents | 14 |
| | Annex C (informative) Distinction of <i>Listeria</i> spp. from other genera | 27 |
| | Annex D (informative) Reactions for the identification of <i>Listeria</i> species | 28 |
| | Annex E (informative) <i>Listeria</i> selective agars | 30 |
| | Annex F (informative) Results of the interlaboratory studies for detection of <i>Listeria</i> monocytogenes | 31 |
| | Bibliography | 35 |