

## 9814 ANSR for *Listeria* Enrichment Broth 1

### Intended Use

**ANSR for *Listeria* Enrichment Broth 1** is used in the **Neogen ANSR for *Listeria*** test method for the presumptive identification of *Listeria* spp. from a wide variety of environmental samples.

### Product Summary and Explanation

*Listeria monocytogenes*, described in 1926 by Murray, Webb, and Swann, is a widespread problem in public health and food industries.<sup>1</sup> This organism has the ability to cause human illness and death, particularly in immunocompromised individuals and susceptible pregnant women.<sup>2</sup> Epidemiological evidence from outbreaks of listeriosis indicate the principle route of transmission is via the consumption of foodstuffs contaminated with *Listeria monocytogenes*.<sup>3</sup> Implicated vehicles of transmission include turkey frankfurters, coleslaw, pasteurized milk, Mexican style cheese and pate'.<sup>4</sup> *Listeria* species are ubiquitous in nature, present in a wide range of unprocessed foods and in soil, sewage, and river waste.<sup>5</sup>

### Principles of the Procedure

The ANSR for *Listeria* method provides for rapid and accurate detection of *Listeria* spp. in a wide variety of environmental samples. In an AOAC Research Institute Performance Tested Method<sup>™</sup> study, ANSR for *Listeria* was found to be an effective method for detection of *Listeria* spp. in sponge or swab samples taken from stainless steel, plastic, ceramic, tile, sealed concrete and rubber environmental surfaces.

### Precautions

1. For laboratory use.
2. **IRRITANT.** Irritating to eyes, respiratory system, and skin.

### Directions

Preparation directions are dependent upon the type of sample tested. Refer to the ANSR<sup>™</sup> for *Listeria* test system package insert for complete instructions.

### **ANSR for *Listeria* Enrichment Broth 1**

Rehydrate 55 g of ANSR for *Listeria* Enrichment Broth 1 with 1 L sterile water pre-warmed to 36°C.

### **SAMPLE ENRICHMENT**

#### **For environmental samples:**

1. Place the sponge or swab sample in a Stomacher-type bag.
2. Add an appropriate amount of **ANSR for *Listeria* Enrichment Broth 1** (Neogen item 9814) pre-warmed to 36°C to the bag.
  - a. For sponge samples, an appropriate amount is usually 100-200ml.
  - b. For swab samples, an appropriate amount is usually 10ml.
3. Homogenize (Stomacher, etc.) the sample as appropriate for the sample type.
4. Incubate the sample at 36 + 1°C for **16–24 hours**.

### Quality Control Specifications

#### Dehydrated

**Appearance:** Medium is homogenous, free-flowing and light to medium beige.

#### Re-hydrated

**Appearance:** Golden yellow with an amber opalescent top, clear to light haze with a trace to moderate precipitate.

**Solubility:** 55 grams dissolves in 1L of water.

**pH:** pH of the re-hydrated medium should be  $7.2 \pm 0.2$ .

**Performance:** Stomacher-type bags were inoculated with the following organisms and the procedure was followed using the package insert:

Microorganism	ANSR for <i>Listeria</i> test results
<i>L. monocytogenes</i> spp.	Positive
<i>E. faecium</i> ATCC 19434	Negative
<i>S. aureus</i> ATCC 33591	Negative

### **Test Procedure**

Refer to the ANSR for *Listeria* package inserts for complete details.

### **Results**

Refer to ANSR for *Listeria* package inserts for complete details. The presumptive identification of *Listeria* spp. must be confirmed with biochemical and serological procedures.

### **Storage**

Store ANSR media in a sealed container at 15 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Keep container tightly closed; protect from moisture.

### **Expiration**

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color.

### **Limitations of the Procedure**

1. Use re-hydrated medium within 6 hours of preparation.
2. Do not autoclave ANSR media or use expired media.
3. Sterile water should be brought to 36°C before use when using ANSR media.
4. The presumptive identification of *Listeria* spp. must be confirmed by further testing.
5. Although the ANSR test chemistry detects *L. grayi*, detection of this species in enriched samples will be variable depending on the ability of individual strains to grow under the enrichment conditions used in the method.

### **Packaging**

**ANSR for *Listeria* Enrichment Broth 1**

**Code No. 9814 500 g**

### **References**

1. **Murray, E. G. D., R. A. Webb, and M. B. R. Swann.** 1926. A disease of rabbits characterized by large mononuclear leucocytosis caused by a hitherto undescribed bacillus *Bacterium monocytogenes*. J. Path. Bacteriol. **29**:407-439.
2. **Monk, J. D., R. S. Clavero, L. R. Beuchat, M. P. Doyle, and R. E. Brackett.** 1994. Irradiation inactivation of *Listeria monocytogenes* and *Staphylococcus aureus* in low and high fat, frozen and refrigerated ground beef. J. Food Prot. **57**:969-974.
3. **Bremer, P. J., and C. M. Osborne.** 1995. Thermal-death times of *Listeria monocytogenes* in green shell mussels prepared for hot smoking. J. Food Prot. **58**:604-608.
4. **Grau, F. H., and P. B. Vanderlinde.** 1992. Occurrence, numbers, and growth of *Listeria monocytogenes* on some vacuum-packaged processed meats. J. Food Prot. **55**:4-7.
5. **Patel, J. R., C. A. Hwang, L. R. Beuchat, M. P. Doyle, and R. E. Brackett.** 1995. Comparison of oxygen scavengers for their ability to enhance resuscitation of heat-injured *Listeria monoytogenes*. J. Food Prot. **58**:244-250.

### **Technical Information**

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