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Cat No. PD197 - ALOA AGAR LISTERIA

Product Type: PETRI DISHES 90mm

Intended Use: For the detection and enumeration of *Listeria monocytogenes* and *Listeria spp*. in samples of the food chain and environmental samples.

Principles and uses:

Agar *Listeria* according to Ottaviani and Agosti – ALOA, is a chromogenic and selective medium for the detection and enumeration of *Listeria monocytogenes* and *Listeria spp*. in food and environmental samples. It allows differentiation of *L. monocytogenes* from other *Listeria* species, even in mixed flora. Includes selective agents like nalidixic acid, ceftazidime, polymyxin B, and cycloheximide. Contains chromogenic compound X-glucoside and phosphatidylinositol for differentiation.
Differentiation mechanism: All *Listeria* species produce blue-green colonies due to β-glucosidase activity. *L. monocytogenes* produces an opaque halo around colonies due to phospholipase C activity.
ALOA medium is recommended for the detection and enumeration of *Listeria monocytogenes* and *Listeria spp*. by ISO 11290-1/2, FDA-BAM, and other regulatory agencies, and allows faster detection with greater sensitivity and specificity. Incubated at 37°C for 24-48 hours under aerobic conditions.

Composition

Meat peptone	18 g/L
Tryptone	6 g/L
Yeast extract	10 g/L
Sodium pyruvate	2 g/L
Glucose	2 g/L
Magnesium glycerophosphate	1 g/L
Magnesium sulphate	0.5 g/L
Sodium chloride	5 g/L
Lithium chloride	10 g/L
Disodium hydrogen phosphate anhydrous*	2.5 g/L
5-bromo-4-chloro-3-indolyl-β-D-glucopyranoside	0.05 g/L
Agar	13.5 g/L
Nalidixic Acid sodium salt	20 mg/L
Ceftazidime	20 mg/L
Cycloheximide	50 mg/L
Polymyxin B Sulphate	76,700 UI/L
L-α-phosphatidylinositol	2 g/L

Storage: 2-8 °C

Appearance: yellowish, opalescent appearance

pH Range: 7.2 ± 0.2 at 20-25°C (or 25°C)

Test Procedure

Test procedure using ALOA plates according to ISO **11290-1** for the detection of *Listeria monocytogenes* and *Listeria spp*.

Test procedure using ALOA plates according to **ISO 11290-2** for the enumeration of *Listeria monocytogenes* and *Listeria spp*. is as follows:

Limitation of ALOA medium

1. Overgrowth of background flora:
    - In some food samples, especially those with complex ingredients, background microbiota can hinder colony reading on ALOA plates .
    - This overgrowth issue is more pronounced in methods that concentrate the sample suspension, like filtration methods .

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2. Specificity issues:
    - .
    - Some non-*Listeria* bacteria may produce white to blue colonies, though these are usually distinguishable from *Listeria* .
3. False positives:
    - *Listeria ivanovii* may also produce an opaque halo, especially after 48 hours of incubation, potentially leading to misidentification as *L. monocytogenes* .
4. Sensitivity to sample preparation:
    - The performance of ALOA can be affected by the sample preparation method, with some protocols leading to better results than others .
5. Incubation time:
    - Some *Listeria* strains may require extended incubation (up to 48 hours) for proper identification, which can delay results .
6. Confirmation requirements:
    - Presumptive positive colonies on ALOA still require confirmation tests, adding to the total analysis time .
7. Potential for underestimation:
    - In some cases, ALOA might underestimate the presence of *L. monocytogenes*, especially when present in low numbers .
8. Not suitable for all food types:
    - ALOA may not be suitable for certain food products, particularly some meat products, due to interference from the food matrix or background flora

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These limitations highlight the importance of using ALOA as part of a comprehensive testing strategy, often in conjunction with other methods, and following proper sample preparation and confirmation procedures.

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Petri dishes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Petri Dishes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.
If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation. Storage Instructions: On receipt, store plates in the dark at 2–8 °C. Avoid freezing and overheating. Do not open until ready to use.

Performance Testing Results

GPT: Inoculum 10-100 cfu.
Inhibitory properties: Inoculum 10000 cfu.

TEST	ATCC	Incubation Temp. (℃)	Incubation Cond	Reaction 1	
Listeria monocytogenes 4b	13932	33-37 ℃	Aerobic, 48 hours	Pass	Turquoise surrounded by halo
Listeria monocytogenes 1/2a	35152	33-37 ℃	Aerobic, 48 hours	Pass	Turquoise surrounded by halo
Listeria innocua	33090	33-37 ℃	Aerobic, 48 hours	Pass	Turquoise w/o halo
Bacillus subtilis	6633	33-37 ℃	Aerobic, 48 hours	Partially inhibited	If growth, turquoise w/o halo
Escherichia coli	25922	33-37 ℃	Aerobic, 48 hours	Partially inhibited	
Enterococcus faecalis	19433	33-37 ℃	Aerobic, 48 hours	Inhibited	
Saccharomyces cerevisiae	2338	33-37 ℃	Aerobic, 48 hours	Inhibited	