

## iChrome™ Listeria, ALOA (ic27011)

Chromogenic medium for isolation and detection of *L. monocytogenes* and *L. innocua*.

Industry: Food / Clinical

### Principles & Uses

iChrome™ Listeria according to OTTAVIANI and AGOSTI (ALOA), is designed for detecting Listeria species in clinical and food samples. It facilitates the growth of *Listeria* species and enables the presumptive identification of *Listeria monocytogenes* within 24-48 hours. It's recommended for use after Listeria Enrichment Broth Base Fraser. This medium relies on the chromogenic detection of β-glucosidase activity. Listeria species break down the chromogenic substrate in the medium, yielding blue-green colonies.

Nitrogen, vitamins, minerals, and essential amino acids needed for growth are supplied by peptones. Yeast extract is the B-group vitamin source, while sodium chloride ensures osmotic balance. Magnesium glycerophosphate acts as a buffering compound, and magnesium sulfate is essential for various enzymatic reactions. Sodium pyruvate serves as an energy source, aiding the recovery of stressed organisms and supporting bacterial metabolism. The fermentable carbohydrate glucose provides carbon and energy. Two factors contribute to the medium's selective properties: lithium chloride and additional antimicrobial components like Polymyxin, Nalidixic acid, and Cycloheximide. Bacteriological agar solidifies the medium.

The lipase C substrate, specific to *L. monocytogenes*, creates an opaque white halo. The combination of substrates distinguishes *L. monocytogenes* from other *Listeria* spp. *L. ivanovii* strains with lipase activity may also present such halos.

### Composition (gr/L)

Enzymatic digest of casein 6, Bacteriological agar 13.5, Sodium chloride 5, Sodium pyruvate 2, Enzymatic digest of animal tissues 18, Magnesium glycerophosphate 1, Glucose 2, Magnesium sulfate 0.5, Sodium hydrogen phosphate 2.5, Yeast extract 10, Lithium chloride 10, chromogenic mixture 0.05.

Final pH at 25°C 7.2 ± 0.2

### Preparation from dehydrated Powder

add 35.2 g of the powder in 500 ml of distilled water. Mix thoroughly. Autoclave at 121°C for 15 minutes. Aseptically add one vial of the iChrome™ Listeria Supplement at 45-50°C and mix well. Aseptically add 10 mg of Nalidixic acid, 5 mg of Amphotericin B, 10 mg of Ceftazidime and 38350 IU of Polymyxin B. Pour in plates.

### Quality Control

Dehydrated Appearance: Dark beige, free-flowing, homogeneous.

Prepared Appearance: Light amber colored, opalescent gel forms in Petri plates

Reaction of 7.05% Solution at 25°C: pH 7.2 ± 0.2

### Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism (ATCC*)	Recovery	Characteristic reaction
<i>Listeria monocytogenes</i> (13932)	Good	Blue green colonies with opaque halo
<i>Listeria innocua</i> (33090)	Good	Blue green colonies without opaque halo
<i>Escherichia coli</i> (8739)	Marked to complete inhibition	-
<i>Enterococcus faecalis</i> (29212)	Marked to complete inhibition	-

\*ATCC is a registered trade mark of the American Type Culture Collection.



*L. monocytogenes* with blue-green colonies and halo around them.

### Storage

Store the powder at 15-30°C, prepared medium and supplements at 2-8°C in a dark place.