



Gelatin Salt Agar

M1148

Gelatin Salt Agar is recommended for the cultivation and differentiation of *Vibrio* species from foods.

Composition**

Ingredients	Gms / Litre
Gelatin	15.000
Peptic digest of animal tissue	4.000
Yeast extract	1.000
Sodium chloride	30.000
Agar	15.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 65 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Vibrio s are fairly easy to isolate from both clinical and environmental material, though some species may require growth factors and /or vitamins. Media can be made selective for *Vibrio* s by adding appropriate selective agents (1). High concentrations of NaCl and alkaline pH have also been used to select certain *Vibrio* species, based on the ability of most *Vibrios* to grow at pH values above 8.0 and at 3% or higher concentrations of NaCl. *Vibrio* species which require high sodium chloride concentration for growth are called Halophilic or Halophiles. Gelatin Salt Agar is used to screen isolates for salt tolerance (2). As only halophilic *Vibrio* species grow on Gelatin Salt Agar, it is recommended to inoculate Gelatin Agar (M920) in addition (3). An opaque halo is observed around growth of gelatinase positive organisms.

Peptic digest of animal tissue and yeast extract provides essential nutrients required for growth of *Vibrio* species. Gelatin serves as a substrate for gelatinase reaction. Sodium chloride maintains the osmotic equilibrium of the medium.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel and 1.5% Gelatin gel

Colour and Clarity of prepared medium

Light yellow coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 6.5% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

M1148: Cultural characteristics observed after an incubation at 35-37°C for 18 - 24 hours.

Organism	Growth	Gelatinase reaction
<i>Vibrio cholerae</i> ATCC 15748	luxuriant	positive reaction, opaque halo around the colony

<i>Vibrio parahaemolyticus</i> ATCC 17802	luxuriant	positive reaction, opaque halo around the colony
<i>Vibrio vulnificus</i> ATCC 29306	luxuriant	positive reaction, opaque halo around the colony
<i>Vibrio mimicus</i> ATCC 33653	luxuriant	positive reaction, opaque halo around the colony

Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium at 2-8°C. Use before expiry period on the label.

Reference

1. Bruno Gomez-Gil and Ana Roque, Isolation, Enumeration and Preservation of the Vibrionaceae, F.L. Thompson, B. Austin and J. Swings, The Biology of Vibrios, ASM press.
2. Smith Jr. H. L. and Goodner K., 1958, J. Bacteriol., 76:662.
3. FDA Bacteriological Analytical Manual, 2005, 18th Ed., AOAC, Washington, D.C.

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