



## Gelatin Iron Agar

M686

Gelatin Iron Agar is used for detecting gelatin liquefaction and hydrogen sulphide production.

### Composition\*\*

Ingredients	Gms / Litre
Peptic digest of animal tissue	25.000
Meat extract	7.500
Sodium chloride	5.000
Gelatin	120.000
Ferrous chloride	0.500
Agar	1.000
Final pH ( at 25°C)	7.0±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 15.9 grams in 100 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in test tubes as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Principle And Interpretation

Gelatin liquefaction along with the production of hydrogen sulphide is one of the characteristics used in the classification of bacteria. Hydrogen sulphide can be produced in small amounts from sulphur containing amino acids by a large number of bacteria. Methods to detect hydrogen sulphide production by suspending strips of paper impregnated with lead acetate above cultures are of variable sensitivity and are of limited value. The hydrogen sulphide production test combined with gelatin liquefaction test is useful for group differentiation within the *Enterobacteriaceae* species (1). Few Clostridia exhibit gelatinase activity as well as H<sub>2</sub>S production. *Escherichia coli* grow well on this medium but show neither gelatinase activity nor H<sub>2</sub>S production.

The medium consists of peptic digest of animal tissue, meat extract and gelatin, which provide nitrogen compounds and also the carbon compounds for the growing organisms. Gelatin acts as solidifying agent and is the substrate for the organisms producing gelatinase enzyme. Ferrous chloride aids in the detection of hydrogen sulphide indicated by black precipitate. Gelatin is usually liquefied by *Clostridium perfringens* within 24 to 48 hours.

### Quality Control

#### Appearance

Cream to yellow homogeneous free flowing powder

#### Gelling

Semisolid, comparable with 0.1% Agar gel and 12.0% Gelatin gel.

#### Colour and Clarity of prepared medium

Light yellow coloured, clear to slightly opalescent gel forms in tubes as butts

#### Reaction

Reaction of 15.9% w/v aqueous solution at 25°C. pH : 7.0±0.2

#### pH

6.80-7.20

#### Cultural Response

M686: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours .

Organism	Inoculum (CFU)	Growth	Gelatinase reaction	H <sub>2</sub> S production
<i>Bacillus subtilis</i> ATCC 6633	50-100	luxuriant	positive reaction	negative, no blackening of medium

---

<i>Clostridium perfringens</i> ATCC 12924	50-100	luxuriant	positive reaction	positive, blackening of medium
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	negative reaction	negative, no blackening of medium

### 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. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone

Revision : 2 / 2015

### Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.