

## Gelatin Medium (i23655)

Gelatin Medium (also called Nutrient Gelatin) is used in qualitative procedures to determine the ability of an organism to liquefy gelatin.

Industry: Food / Water

## Principles & Uses

Gelatin Medium, historically used in water and wastewater examination, is a medium designed to detect proteolytic microorganisms based on gelatin liquefaction. Beef extract supplies essential nutrients for microbial growth. Peptone provides nitrogen, carbon, and amino acids, supporting the development of non-fastidious organisms. Gelatin serves as a substrate for assessing the production of gelatinase, a key enzyme in gelatin liquefaction.

This medium is a part of the traditional plate count technique for water analysis, replaced in solid media with agar for organism enumeration. The procedure involves stab-inoculating a culture into Gelatin Medium, incubating it at 35°C, and checking for gelatin liquefaction over 24 - 48 hours. Gelatin's solid state below 20°C transitions to a liquid state above 35°C, aiding the identification of organisms capable of liquefying gelatin. A control is essential for each test, considering variations in gelatin's gelling ability.

The method, however, is not suitable for determining gelatin liquefaction by fastidious species and obligate anaerobes. Throughout incubation, periodic assessments are made, with the tubes transferred to the refrigerator at intervals to determine liquefaction. Gelatin Medium, though an early tool in bacteriology, still holds significance in microbial analysis, especially for enteric *bacilli* differentiation and water microbial plate counts.

## Composition (gr/L)

Gelatin 120 g, Peptone 5 g, Beef Extract 3 g.

Final pH at 25°C 6.8 ± 0.2

## Preparation from dehydrated Powder

Suspend 128 g of powder in 1 L of distilled water. Autoclave at 121°C for 15 minutes.

## Quality Control

Dehydrated Appearance: Beige, homogeneous powder.

Prepared Appearance: Light amber, clear.

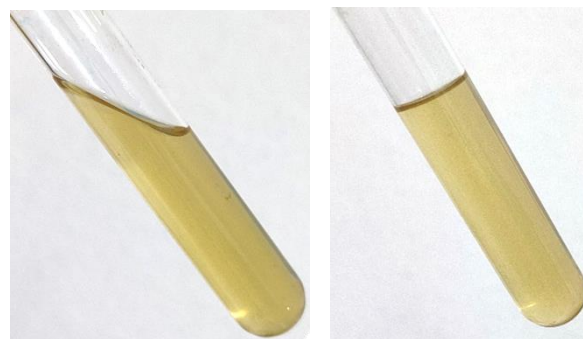
Reaction of 12.8% Solution at 25°C: pH 6.8 ± 0.2

## Cultural Response

Inoculate and incubate at 37 ± 2°C for 24 hours.

Organism (ATCC*)	Recovery	Gelatinase
<i>Escherichia coli</i> (25922)	Good	-
<i>Staphylococcus aureus</i> (25923)	Good	+

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



*Staphylococcus aureus* (left). Prepared Culture Media (right).

## Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.