

Giolitti-Cantoni Broth Base (i23234)

Giolitti-Cantoni Broth Base is used for enriching *Staphylococcus aureus* from foods during isolation procedures.

Industry: Food

Principles & Uses

Giolitti-Cantoni Broth is a versatile medium used for the detection and recovery of *Staphylococci*, particularly *Staphylococcus aureus*, in various food products. The medium is highly recommended by organizations such as the International Dairy Federation (IDF), APHA, and ISO committees for specific food testing purposes. It contains Peptone, yeast extract, beef extract, mannitol, and sodium pyruvate, which provide essential nutrients for the growth of *staphylococci*. Additionally, it includes compounds like lithium chloride to inhibit gram-negative bacteria and potassium tellurite and glycine to inhibit gram-positive bacteria. The incorporation of sterile paraffin wax creates anaerobic conditions, suppressing *Micrococci*.

To use Giolitti-Cantoni Broth, a sample is inoculated into the medium, and blackening of the medium indicates the presence of *Staphylococcus aureus*. This medium aids in the detection of *staphylococci*, even when present in low numbers, and can be further confirmed through additional tests. It is a valuable tool for assessing the quality and safety of food products, particularly where low levels of these bacteria are expected.

Composition (gr/L)

Tryptone 10, Beef Extract 5, Yeast Extract 5, D-Mannitol 20, Sodium Chloride 5, Lithium Chloride 5, Glycine 1.2, Sodium Pyruvate 3, Tween 80 1.

Final pH at 25°C 6.9 ± 0.2

Preparation from dehydrated Powder

Dissolve 55.2 g of the powder in 1 Liter of purified water. Dispense 19 mL amounts into 20 × 200 mm

tubes. Autoclave at 121°C for 15 minutes. Cool to 15-30°C. Aseptically add 1.05 mL Tellurite Solution 1% per tube, 0.105 mL when testing meat products (or quality control organisms). Mix thoroughly.

Quality Control

Dehydrated Appearance: Tan, free-flowing, homogeneous.

Prepared Appearance: Medium amber, clear.

Reaction of 5.52% Solution at 25°C: pH 6.9 ± 0.2

Cultural Response

Cultural response was observed 24-48 hours of incubation at 35 ± 2°C.

Organism (ATCC*)	Recovery	Appearance
<i>Escherichia coli</i> (25923)	Inhibition	No Blackening
<i>Staphylococcus aureus</i> (6538)	Good	Black
<i>Staphylococcus aureus</i> (25923)	Good	Black

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



Culture medium turned black due to *S. aureus* growth (left). Inhibition of *E. coli* with no change in the medium (right).

Storage

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