

TECHNICAL DATA SHEET

Giolitti-Cantoni Broth Base

Principle

Giolitti-Cantoni Broth base described by Giolitti and Cantoni for enrichment of small numbers of staphylococci in food and food products by using potassium tellurite and a test procedure. Giolitti-Cantoni Broth Base is composed of tryptone, meat extract (equivalent to beef extract), yeast extract, mannitol, sodium chloride, lithium chloride, glycine, and sodium pyruvate. Tryptone, meat extract, and yeast extract provide nitrogen, carbon, sulfur, and vitamins. Mannitol is the carbohydrate source. Sodium chloride maintains the osmotic balance. Lithium chloride inhibits gram-negative bacteria, and potassium tellurite inhibits gram-positive bacteria other than staphylococci with the help of glycine. Sodium pyruvate protects injured cells, helps to recover them, and stimulates the growth of *Staphylococcus aureus*.

Use: For selective enrichment of *Staphylococcus aureus* from foods.

Contents*

Ingredients	Gram/Liter
Tryptone	10.000
Meat extract#	5.000
Yeast extract	5.000
Mannitol	20.000
Sodium chloride	5.000
Lithium chloride	5.000
Glycine	1.200
Sodium Pyruvate	3.000
pH at 25°C	6.9 ± 0.2

* Formula adjusted for optimum performance and parameters # Equivalent to beef extract

Directions: Dissolve 54.20 grams in 1000 ml distilled water, boil to dissolve the medium completely and then transfer 19 ml of medium into 20 x 200 mm test tube. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 min, cool it to 42-45 °C. After cooling to 45- 50°C, add 0.3 ml sterile 3.5% Potassium Tellurite solution or 0.03 ml when testing meat products. Mix thoroughly before use.

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Specimens' types analyzed Food and food products.

Precautions to be taken

All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Beige colored free flowing, homogeneous powder
Reaction of 5.42% solution	6.9 $\pm$ 0.2 at 25 °C
pH	6.70- 7.10
Color and clarity of ready medium	Light yellow, clear solution without any significant precipitate.
Growth Promotion properties	Best at $\leq$ 100 CFU at 32-37 °C for 18-72 h
Indicative properties	Optimum at $\leq$ 100 CFU at 32-37 °C for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response: Cultural characteristics observed after incubation at 35 $\pm$ 2°C for 24-48 hours. Inoculum 50-100 CFU.

Organism	ATCC	Inoculum	Growth	Tellurite reduction
<i>Staphylococcus aureus</i>	25923	50-100	Luxuriant	Positive, Blackening of medium
<i>Staphylococcus aureus</i>	6538	50-100	Luxuriant	Positive, Blackening of medium
<i>Escherichia coli</i>	8739	50-100	Inhibited	Negative, No blackening of medium
<i>Pseudomonas aeruginosa</i>	27853	50-100	Inhibited	Negative, No blackening of medium

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Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label.

Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Difco Manual (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
2. Flowers, R. S., W. Andrews, C. W. Donnelly, and E. Koenig. 1993. Pathogens in milk and milk products, p. 103-212. In R. T. Marshall (ed.). Standard methods for the microbiological examination of dairy products, 16th ed. American Public Health Association, Washington, D.C
3. Giolitti, G., and C. Cantoni. 1966. A medium for the isolation of staphylococci from foodstuffs. J. Appl. Bacteriol. 29:395-398.
4. Marshall, (Ed.), Standard Methods for the Microbiological Examination of Dairy Products, 1993, 16th Ed., American Public Health Association, Washington, D.C.

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