

## GC Medium Base (i23070)

Used, with added blood or haemoglobin and other supplements, for selective isolation and cultivation of *Gonococci*.

Industry: Clinical

## Principles & Uses

GC medium is used for cultivation and isolation of *Neisseria gonorrhoeae*, particularly emphasizing the evolution and modification of growth media to enhance selectivity and speed up the identification process. Initially designed by Johnston for rapid *Neisseria* growth, the medium was later modified by Thayer and Martin, incorporating antibiotics like colistin, vancomycin, and nystatin for better selectivity. Further adjustments involved the addition of trimethoprim lactate and the replacement of vancomycin with lincomycin for sensitivity. The medium's components, such as peptones, starch, and agar, play essential roles in providing nutrients, neutralizing toxic metabolites, and solidifying the medium. Additionally, factors like hemoglobin and supplements contribute to the growth of fastidious organisms.

Inoculation and incubation conditions are crucial, with incubation in a CO<sub>2</sub>-rich environment at 37°C. The confirmation of presumptive *Neisseria* involves carbohydrate fermentation tests and other serological procedures.

## Composition (gr/L)

Casein Peptone, 7.5 g, Meat Peptone 7,5 g, Corn Starch 1 g, Dipotassium Phosphate 4 g, Monopotassium phosphate 1 g, Sodium Chloride 5 g, Agar 10 g.

Final pH at 25°C 7.2 ± 0.2

## Preparation from dehydrated Powder

Dissolve 7.2 grams of the medium in 100 ml of distilled water to create a double-strength base. Autoclave the solution at 121°C for 15 minutes. Once sterilized, cool it down to 45-50°C and aseptically introduce separately prepared Haemoglobin in the form of a 100 ml sterile

2% solution and GC Supplement with Antibiotics. Thoroughly mix the components and pour the resulting solution into sterile Petri plates. To enhance the medium's selectivity, consider adding antibiotic supplements like Linco T Supplement, V.C.N. Supplement, V.C.N.T. Supplement, or Vanclo T Supplement. If improved nutritional properties are desired, incorporate Growth Supplement or Yeast Autolysate Supplement.

## Quality Control

Dehydrated Appearance: Light amber, free-flowing, homogeneous.

Prepared Appearance: Amber, slightly opalescent.

Reaction of 3.5% Solution at 25°C: pH 7.2 ± 0.2

## Cultural Response

The medium was inoculated with the organisms listed below. Cultural characteristics were observed after incubation at 35 ± 2°C with 3 - 5% CO<sub>2</sub> for 18 - 24 hours.

Organism (ATCC*)	Recovery
<i>Streptococcus pyogenes</i> (19615)	Good
<i>Haemophilus influenzae</i> (19418)	Good
<i>Neisseria meningitidis</i> (13090)	Good

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

## Storage

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