G C Broth

Intended Use
G C Broth, with various additives is used to isolate and cultivate Gonococci and other fastidious organisms.

Summary
G C Broth is used to prepare the GC Agar Base with the adequate addition of agar. It is used with various additives for the isolation and cultivation of pathogenic microorganisms such as *Neisseria gonorrhoeae, Haemophilus influenzae* and *N. meningitidis*. Majority of gonococcal infections are uncomplicated lower genital tract infection caused by direct infection of the columnar epithelium of mucosal membranes. *Neisseria gonorrhoeae* is the causative agent of gonococcal infections. Most *Neisseria* strains have complex growth requirements; some strains may be exquisitely sensitive to fatty acids, necessitating the incorporation of soluble starch in the growth media. Johnston developed a medium that could obtain the growth of *Neisseria* within 24 hours rather than the usual 48 hours. This medium was later modified by Carpenter and Morton, by the addition of haemoglobin. Thayer and Martin improved the selectivity of G C Medium by the incorporation of the antibiotics colistin, Vancomycin and Nystatin (VCN). An additional antibiotic trimethoprim lactate was later coupled with VCN to further increase the selectivity of the medium. For the cultivation of fastidious organisms, the medium should be supplemented with essential growth factors supplied predominantly by yeast extract. X-factor needed for the growth of fastidious *Haemophilus* species is provided by haemoglobin.

Principle
Peptone provides nitrogen, vitamins and amino acids. Corn starch absorbs and neutralizes the toxic metabolites and phosphates buffers the medium and prevents change in the pH due to amine production that can affect the survival of the organisms. Sodium chloride maintains the osmotic balance.

Formula*

Ingredients	**g/L**
Peptone Special	15.0
Sodium Chloride	5.0
Dipotassium Phosphate	4.0
Monopotassium Phosphate	1.0
Corn Starch	1.0
Final pH (at 25°C)	7.2 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2ºC-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen
Clinical samples: Blood, respiratory exudates.

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 26.00 g of the powder in 1000 mL purified / distilled water.
2. Boil with frequent agitation to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated appearance: Yellow coloured, homogenous, free flowing powder.
Prepared Appearance: Light yellow coloured, slightly opalescent may have a slight precipitate.
With addition of haemoglobin and agar: Chocolate brown coloured, opaque medium.
Cultural Response: Cultural characteristics observed in presence of 5-10% Carbon dioxide (CO2) and 70% humidity with added sterile 2% Haemoglobin (204080100100) and GC Supplement with antibiotics (204070340005), after an incubation at 35-37°C for 40-48 hours.

Organism (ATCC)	**Growth**
Neisseria gonorrhoeae (49226)	Good
Haemophilus influenzae (10211)	Good

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Murray P. R., Baron E. J., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2. Johnston J., 1945, J. Vener. Dis. Inform., 26:239.
3. Carpenter C. M. and Morton H. E., 1947, Proc. N.Y. State Assoc. Public Hlth. Lab., 27:58.
4. Thayer J. D. and Martin J. E., 1964, Public Health Rep., 79:49
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	**Product description**	**Pack Size**
201070020500	Dehydrated Culture Media	500 g