

CM 21473 – PURPLE BROTH BASE

INTENDED USE

For identification of pure cultures of enteric and other microorganisms.

PRODUCT SUMMARY AND EXPLANATION

Purple Broth Base is used for studying carbohydrate fermentation reactions, particularly in the identification of gram-negative enteric bacteria on addition of the desired carbohydrate. Purple media were originally formulated by Vera. This medium is recommended by FDA for fermentation studies of sugars.

The carbohydrates they utilize and the types and quantities of acid they produce differentiate bacteria. These differences in enzymatic activity serve as one of the important characteristics in differentiation of bacterial species. The principle of carbohydrate fermentation states that the action of organism on a carbohydrate substrate results in acidification of the medium, detected by a pH indicator dye.

COMPOSITION

Ingredients	Gms / Ltr
Peptone, special	10.000
Sodium chloride	5.000
Bromo cresol purple	0.020

PRINCIPLE

This medium consists of peptone special which supply the essential nutrients especially nitrogen sources to the growing organisms. Sodium chloride maintains the osmotic balance of the medium. Bromocresol purple is the pH indicator, which turns yellow at acidic pH. Gas production is evident by its collection in Durham's tube. The acid produced during the fermentation of carbohydrate causes bromocresol purple, the pH indicator to turn yellow. If the carbohydrate is not utilized or fermented, the color of the medium remains unchanged or becomes more alkaline (darker purple) due to decarboxylation of the amino acids present in the medium.

INSTRUCTION FOR USE

Dissolve 15.02 grams in 1000 ml distilled water.

Add 5 -10 grams of the carbohydrate to be tested.

Heat if necessary to dissolve the medium completely.

Dispense into tubes, containing inverted Durham tubes as desired and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

Alternatively, sterilize the basal medium prepared using 900 ml distilled water and add 100 ml separately sterilized 5 -10% solution of the desired carbohydrate to it.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to light green homogeneous free flowing powder.
Appearance of prepared medium	: Purple coloured clear solution in tubes.
pH (at 25°C)	: 6.8 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Acid (without carbohydrate)	Gas (without carbohydrate)	Acid (with 1% dextrose)	Gas (with 1% dextrose)	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Negative reaction, no colour change	Negative reaction	Positive reaction, yellow colour	Positive reaction	35-37°C	18-48 Hours
Listeria monocytogenes	19112	50-100	Luxuriant	Negative reaction, no colour change	Negative reaction	Positive reaction, yellow colour (fermentative metabolism)	Negative reaction	35-37°C	18-48 Hours
Neisseria meningitidis	13090	50-100	Good-luxuriant	Negative reaction, no colour change	Negative reaction	Positive reaction, yellow colour	Negative reaction	35-37°C	18-48 Hours
Staphylococcus aureus subsp. aureus	25923	50-100	Luxuriant	Negative reaction, no colour change	Negative reaction	Positive reaction, yellow colour	Negative reaction	35-37°C	18-48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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