TM 701 – COLUMBIA AGAR (MEDIUM Q) (as per BP)

INTENDED USE

For detection of *Clostridium perfringens* from pharma products.

PRODUCT SUMMARY AND EXPLANATION

Columbia Blood Agar Base used as a general-purpose nutritious medium was devised by Ellner et al from Columbia University, which was further enriched by the addition of sheep blood. It can also be used for the isolation of organisms by addition of various supplements. Columbia Agar is prepared as per the formulation in BP and is in accordance with the microbial limit testing harmonized methodology of USP/BP/EP/JP. This medium is recommended to check the presence of *Clostridium* in non-sterile products like food, dietary, nutritional supplements related products. The genus *Clostridium* belongs to the family Clostridiaceae in the class Clostridia.

The product to be examined is initially enriched in Reinforced medium for clostridia. This medium contains 0.05% Agar and cysteine, which creates anaerobic conditions, thereby allowing anaerobic organisms to grow. The enriched sample is then subcultured on Columbia Agar. Columbia Agar is used as a base for media containing blood and for selective media formulations in which different combinations of antimicrobial agents are used as additives. Clostridia grows under anaerobic conditions as gram positive rods giving a catalase negative test. Further confirmation is carried out by identification tests.

COMPOSITION

Ingredients	Gms / Ltr
Pancreatic digest of casein	10.000
Meat peptic digest	5.000
Heart pancreatic digest	3.000
Yeast extract	5.000
Maize starch	1.000
Sodium chloride	5.000
Agar	15.000

PRINCIPLE

This medium is highly nutritious as it contains pancreatic digest of casein, meat peptic digest, heart pancreatic digest and yeast extract which supports rapid and luxuriant growth of fastidious as well as non-fastidious organisms. Sodium chloride maintains osmotic balance of medium. Maize starch acts as an energy source and also neutralizes toxic metabolites if produced. It is used in detection of Clostridia from pharmaceutical products. Gentamicin inhibits a number of contaminating gram-negative organisms and *Staphylococcus* species.

INSTRUCTION FOR USE

- Dissolve 44 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes, i.e. validated cycle.
- Cool to 45-50°C, if required add the rehydrated contents of 1 vial of Gentamicin Selective Supplement.
- Mix well before pouring into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Light amber coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.3±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Clostridium sporogenes	19404	50 -100	Luxuriant	>=70%	30-35°C	<=48 Hours
Clostridium sporogenes	11437	50 -100	Good-luxuriant	>=50%	30-35°C	<=48 Hours
Bacteroides vulgatus	8482	50 -100	Luxuriant	>=70%	30-35°C	<=48 Hours
Clostridium perfringens	13124	50 -100	Luxuriant	>=70%	30-35°C	<=48 Hours
Bacteroides fragilis	23745	50 -100	Luxuriant	>=70%	30-35°C	<=48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

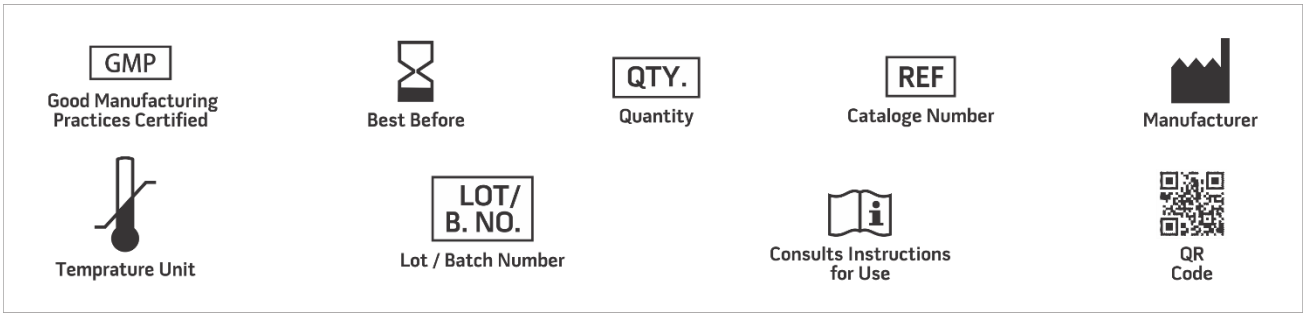
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided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

1. Ellner, Stoessel, Drakeford and Vasi, 1966, Am. J. Clin. Pathol., 45:502.
2. The United States Pharmacopoeia, 2009, The United States Pharmacopeial Convention. Rockville, MD.
3. British Pharmacopoeia, 2009, The Stationery office British Pharmacopoeia
4. European Pharmacopoeia, 2009, European Dept. for the quality of Medicines.
5.Japanese Pharmacopoeia, 2008.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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