

# Columbia Broth



Medium used for the cultivation and enumeration of fastidious microorganisms.

## • CONTENTS (Liter)

Pancreatic Digest of Casein	10.0 g
Yeast Extract	5.0 g
Meat Peptone	8.0 g
L-Cysteine HCl	0.1 g
Dextrose	2.5 g
Sodium Chloride	5.0 g
Magnesium Sulfate	0.1 g
Ferrous Sulfate	0.02 g
Sodium Carbonate	0.6 g
Tris (Hydroxymethyl) Aminomethane	0.83 g
Tris (Hydroxymethyl) Aminomethane HCl	2.86 g
Final pH = 7.5 ± 0.2 at 25°C	

## • PROCEDURE

Suspend 35.01 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45 - 50°C in water bath. Mix well. Pour into tubes.

## • INTERPRETATION

Columbia Broth is a medium used for the cultivation and enumeration of fastidious microorganisms. Pancreatic digest of casein, yeast extract and meat peptone provide carbon, nitrogen, vitamins and minerals. L-cysteine HCl is a reducing agent. Dextrose is a source of carbohydrate. Sodium chloride maintains the osmotic balance. Magnesium sulfate and ferrous sulfate provide ions to facilitate organism growth. Sodium carbonate serves as neutralizer of toxic metabolites. Tris aminomethane and tris aminomethane HCl are the buffering agent.

## • TECHNIC

Inoculate the specimen with stab using a sterile needle to the middle of the medium. Incubate at 35 ± 2°C for 18 - 48 hours. Refer appropriate references for recommended test procedure.

## • QUALITY CONTROL FOR USE

### Dehydrated medium

Appearance: free-flowing, homogeneous

Color: light beige

### Prepared medium

Appearance: slightly opalescent

Color: light amber

Incubation conditions: 35 ± 2°C / 18 - 48 hours

Microorganism	ATCC	Inoculum CFU	Growth
<i>Bacteroides fragilis</i>	25285	50-100	good
<i>Pseudomonas aeruginosa</i>	27853	50-100	good
<i>Staphylococcus aureus</i>	25923	50-100	good
<i>Streptococcus pneumoniae</i>	6305	50-100	good
<i>Streptococcus pyogenes</i>	19615	50-100	good
<i>Clostridium perfringens</i>	13124	50-100	good
<i>Escherichia coli</i>	25922	50-100	good

## • STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared medium at 2 - 8°C.

## • REFERENCES

1. Morello and Ellner. 1969. Appl. Microbiol. 17:68.
2. Murray, Baron, Jorgensen, Landry and Pfaller (ed.). 2007. Manual of Clinical Microbiology, 9th ed. American Society for Microbiology, Washington, D.C.

## • PACKAGE

Cat. No : MB-C0701 Columbia Broth	500 G
--------------------------------------	-------