

Simmons Citrate Agar



Medium used for the identification and determination of Enterobacteriaceae on the basis of citrate utilization.

• CONTENTS (Liter)

Magnesium Sulfate	0.2 g
Ammonium Dihydrogen Phosphate	1.0 g
Dipotassium Phosphate	1.0 g
Sodium Citrate	2.0 g
Sodium Chloride	5.0 g
Bromothymol Blue	0.08 g
Agar	15.0 g
Final pH = 6.9 ± 0.2 at 25°C	

• PROCEDURE

Suspend 24.28 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. Arrange tubes in a slanted position.

• INTERPRETATION

Simmons Citrate Agar is a medium used for the identification and determination of Enterobacteriaceae on the basis of citrate utilization. Magnesium sulfate provides ion for the growth of microorganisms. Ammonium dihydrogen phosphate and sodium citrate serve as sole nitrogen and carbon sources, respectively. Dipotassium Phosphate is the buffering agent. Sodium chloride maintains the osmotic balance. Bromothymol blue is a pH indicator. Agar is the solidifying agent.

• TECHNIC

Inoculate the specimen using a sterile needle to the medium. Incubate at 35 ± 2°C for 24 - 48 hours up to 4 days. Slightly loosen the caps. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium

Appearance: free-flowing, homogeneous

Color: yellow

Prepared medium

Appearance : slightly opalescent, may have slight precipitates

Color: forest green

Incubation conditions: 35 ± 2°C / 24 - 48 hours up to 4 days / Loosen the caps

Microorganism	ATCC	Growth	Citrate Utilization
<i>Enterobacter aerogenes</i>	13048	good	+ (blue)
<i>Klebsiella pneumoniae</i>	27736	good	+ (blue)
<i>Salmonella typhimurium</i>	14028	good	+ (blue)
<i>Escherichia coli</i>	25922	partially inhibited	- (no color change)
<i>Shigella flexneri</i>	12022	inhibited	- (no color change)

• 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. Store prepared medium at 2 - 8°C.

• REFERENCES

1. Ewig W.H. and Edwards P.R. (1960). Bull. Bact. Nomen. And Taxon. 10: 1-12.
2. American Public Health Association (1981). Standard Methods for the Examination of Water and Wastewater, 15th ed. APHA Inc, Washington DC.
3. Matsen J.M., and Sherris J.C. (1969) Appl. Microbiol. 18: 452-454.

• PACKAGE

Cat. No : MB-S1046 Simmons Citrate Agar	500 G
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