

Product Data Sheet

SIMMONS CITRATE AGAR

Product No. GB-DCM-00285-1A

INTENDED USE

For differentiation of Enterobacteriaceae on the basis of citrate utilization.

PRODUCT SUMMARY

These media are used for the differentiation between Enterobacteriaceae and the members of aerogenes group on the basis of citrate utilization as sole carbon source. Initially the citrate medium was developed by Koser containing ammonium salt as the only nitrogen source and citrate as the only carbon source for differentiating Escherichia coli and Enterobacter aerogenes by IMViC tests. Later on Simmons modified Koser's formulation by adding agar and bromothymol blue. It is recommended by APHA.

Product Specifications

Ingredients	Gms / Ltr
Magnesium sulphate	0.200
Ammonium dihydrogen phosphate	1.000
Dipotassium phosphate	1.000
Sodium citrate	2.000
Sodium chloride	5.000
Bromothymol blue	0.080
Agar	15.000

PRINCIPLE

Ammonium dihydrogen phosphate and sodium citrate serve as the sole nitrogen and carbon source respectively. Microorganisms also use inorganic ammonium salts as their sole nitrogen source. Metabolism of these salts causes the medium to become alkaline, indicated by a change in colour of the pH indicator from green to blue. Bromothymol blue is the pH indicator. The medium should be freshly prepared because in dry conditions, changes in colour may appear even before inoculation, especially at the bottom of the slant.

INSTRUCTION FOR USE

- Dissolve 24.28 grams in 1000 ml purified/ distilled water.
- Heat, to boiling, to dissolve the medium completely.
- Mix well and distribute in tubes or flasks.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

Precaution: Before using water, ensure pH of water is 6.5 to 7.0. Initial colour of the medium may deviate from expected colour, if the above precaution is ignored.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder..

Appearance of prepared medium: Forest green coloured slightly opalescent gel forms in tubes as slants.

pH (at 25°C) : 6.8 ± 0.2

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Citrate utilization	Incubation Temperature	Incubation Period
Klebsiella aerogenes	13048	50-100	Good-luxuriant	Positive reaction, blue colour	35-37°C	18-24 Hours
Escherichia coli	25922	$\geq 10^3$	Inhibited	-	35-37°C	18-24 Hours
Salmonella Typhi	6539	50-100	Fair-good	Negative reaction, green colour	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Good-luxuriant	Positive reaction, blue colour	35-37°C	18-24 Hours
Shigella dysenteriae	13313	$\geq 10^3$	Inhibited	-	35-37°C	18-24 Hours
Salmonella Choleraesuis	12011	50-100	Good-luxuriant	Positive reaction, blue colour	35-37°C	18-24 Hours
Salmonella Enteritidis	13076	50-100	Good-luxuriant	Positive reaction, blue colour	35-37°C	18-24 Hours



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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.

This product is for research use only.