

## KOSER CITRATE MEDIUM

Medium for enterobacteria differentiation.

### TYPICAL FORMULA (g/l)

Sodium Citrate	3.0
Sodium Ammonium Phosphate	1.5
Monobasic Potassium Phosphate	1.0
Magnesium Sulfate	0.2
Final pH = 6.7 ± 0.2 at 25 °C.	

### DIRECTIONS

Suspend 5.7 g of powder in 1 liter of distilled or deionized water. Dispense required amounts into final tubes. Sterilize in autoclave at 121 °C for 15 minutes.

### DESCRIPTION

KOSER CITRATE MEDIUM is used for differentiating *Escherichia coli* from *Enterobacter aerogenes* based on citrate utilization. Koser found the sodium salt of citric acid (sodium citrate) is used as a source of carbon by *E. aerogenes* and not by *E. coli*. Presumptive identification is confirmed by performing biochemical tests that specifically identify *E. coli*.

### TECHNIQUE

Transfer growth from a single colony or a loopful of liquid suspension and inoculate the broth medium. Incubate at 36 ± 1 °C for 18-24 hours. A positive result is indicated by turbidity the medium appears clear, with no turbidity, in a negative test.

### QUALITY CONTROL

#### Dehydrated medium

Appearance: free-flowing, homogeneous.  
Color: white.

#### Prepared medium

Appearance: clear.  
Color: colorless.

Incubation conditions: 36 ± 1 °C for 18-24 hours.

Microorganism	ATCC	Growth
<i>Enterobacter aerogenes</i>	13048	good
<i>Enterobacter cloacae</i>	23355	good
<i>Enterococcus faecalis</i>	19433	none
<i>Escherichia coli</i>	25922	markedly to completely inhibited

### PERFORMANCE AND LIMITATIONS

The Koser citrate test is one of the many biochemical tests required to identify an isolate to genus and species.

### STORAGE

The powder is very hygroscopic: store the powder at 10-30 °C, 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 tubes at 2-8 °C.








### REFERENCES

1. Koser, S.A. (1923). J. Bacteriol. **8**: 493-520.
2. Association of Official Analytical Chemists (1995). Bacteriological analytical manual, 8th ed. AOAC International, Gaithersburg, MD.

### PRESENTATION

Product	REF	Σ
KOSER CITRATE MEDIUM (87.7 l)	610165	500 g
KOSER CITRATE MEDIUM (17.5 l)	620165	100 g

### TABLE OF SYMBOLS

<b>LOT</b> Batch code	 Caution, consult accompanying documents	 Manufacturer	 Contains sufficient for <n> tests	<b>IVD</b> <i>In Vitro</i> Diagnostic Medical Device
<b>REF</b> Catalogue number	 Fragile, handle with care	 Use by	 Temperature limitation	 Keep away from heat source



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