

TSC (Tryptose-Sulfite-Cycloserine) Agar



Medium used for the isolation and cultivation of *Clostridium perfringens*.

*Equally use with MFDS (MB-T2280K).

• CONTENTS (Liter)

Tryptose	15.0 g
Yeast Extract	5.0 g
Soytone	5.0 g
Ferric Ammonium Citrate	1.0 g
Sodium Metabisulfite	1.0 g
Agar	20.0 g
Final pH = 7.6 ± 0.2 at 25°C	

• PROCEDURE

Suspend 47.0 G of powder in 820 mL 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. Aseptically add 10% of Egg Yolk Emulsion (MB-E1864) and 2 vials of D-Cycloserine Solution (MB-C1810). Mix well. Pour into petri dishes.

D-Cycloserine Solution

1 vial contents (each vial is sufficient for 500mL of medium)

D-Cycloserine 0.2 g

• INTERPRETATION

TSC (Tryptose-Sulfite-Cycloserine) Agar is a medium used for the isolation and cultivation of *Clostridium perfringens*. Tryptose, yeast extract and soytone provide nitrogen, carbon, vitamins and minerals. Ferric ammonium citrate and sodium metabisulfite act as indicators of sulfite. *Clostridium perfringens* reduces sulfite to sulfide. Sulfide reacts with iron in the medium and produces ferrous sulfide, which forms black precipitates. When the medium becomes oxidized, colonies can turn pale and fade. It looks like beige colonies or yellowish gray colonies. Agar is the solidifying agent. D-Cycloserine inhibits the catalyst which are necessary for the biosynthesis of the bacterial cell wall.

• TECHNIC

Inoculate the specimen using a sterile loop to the medium. If necessary, overlay with 10 - 15 mL of TSC Agar (egg yolk emulsion free) or inoculate using the pour plate method to improve the blackening of colonies. Incubate at 36 ± 1°C for 18 - 24 hours under anaerobic condition. 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: amber

Incubation conditions: 36 ± 1°C / 18 - 24 hours under anaerobic condition

Microorganism	ATCC	Inoculum CFU	Growth	Characteristics
<i>Clostridium perfringens</i>	13124	50-100	good	black colonies with opaque halo
<i>Escherichia coli</i>	25922	≥10 ³	inhibited	-

• 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. Sahidi S.A. and Ferguson A.R. (1971) Appl. Microbiol, 21 500-506. Harmon S.M., Kauttar D.A. and Peeler J.T. (1971) Appl. Microbiol. 21 922-927. Hauschild A.H.W. and Hilsheimer R. (1973) Appl. Microbiol. 27. 78-82.
2. International standard ISO 7937 Microbiology of food and animal feeding stuffs-Horizontal method for enumeration of *Clostridium perfringens* - colony count technique.
3. Refer to the MFDS.

• PACKAGE

Cat. No : MB-T2280 TSC (Tryptose-Sulfite-Cycloserine) Agar	500 G
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• MICROBIAL CULTURE IMAGES



None



Clostridium perfringens ATCC 13124

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