

Tryptose Sulfite Cycloserine (TSC) Agar (i23229)

For the isolation and enumeration of the vegetative and spore forms of *Clostridium perfringens* in foodstuffs, clinical specimens and other materials.

Industry: Water / Food

Principles & Uses

TSC Agar Base, initially designed for identifying and enumerating *Clostridium perfringens* in food, stands out as a valuable medium, acknowledged by the ISO Committee. It excels in selectively recovering *C. perfringens* while inhibiting other facultative anaerobes. Components like Tryptose, soy peptone, and yeast extract create an optimal nutrient base supporting *Clostridia* development. This medium employs Ferric ammonium citrate and sodium disulfite as hydrogen sulfide indicators. Agar solidifies the medium, while *Cycloserine* hampers accompanying bacterial flora, restricting colony size.

The addition of Egg Yolk Emulsion supplement serves to illustrate lecithinase activity. Following the incubation period, colonies that exhibit lecithinase activity generate an opaque region in their immediate surroundings.

Hydrogen sulfide-producing colonies exhibit blackening. After 24 hours, all black colonies, whether lecithinase positive or negative, are deemed presumptive for *C. perfringens*. Confirmation tests are then imperative. With its precision in targeting *C. perfringens*, TSC Agar Base is a trusted medium, offering a comprehensive approach to presumptive identification, making it a cornerstone in microbiological analyses for this bacterium.

Composition (gr/L)

Tryptose 15 g, Peptone from Soymeal 5 g, Yeast Extract 5 g, Sodium disulfite 1 g, Ferric Ammonium Citrate 1 g, Agar 15 g.

Final pH at 25°C 7.6 ± 0.2

Preparation from dehydrated Powder

Suspend 42 g of powder in 1 L of distilled water. dispense into suitable vessels and autoclave at 121°C for 15 minutes. Cool the liquefied culture medium base to approx. 50 °C, add 0.4 g cycloserine (10 ml of filter-sterilized 5 % solution). If desired add 25 ml egg yolk emulsion (Not indicated in ISO).

Quality Control

Dehydrated Appearance: Beige, free-flowing, homogeneous.

Prepared Appearance: Canary yellow, without significant precipitation.

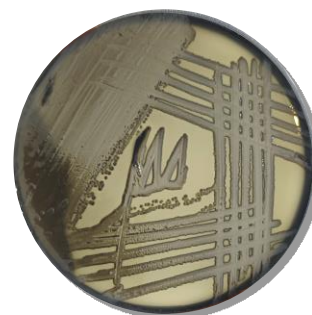
Reaction of 3.9% Solution at 25°C: pH 7.6 ± 0.2

Cultural Response

After adding cycloserine supplement, cultural response was observed after incubation at 35 - 37 °C for 18 - 48 hours in anaerobic condition.

Organism (ATCC*)	Recovery	Black Colony
<i>Clostridium perfringens</i> (12919)	Very good	+
<i>Escherichia coli</i> (25922)	Non/fair	-

*ATCC is a registered trade mark of the American Type Culture Collection.



Clostridium perfringens (12919)

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.