

Also known as

CLS

Specification

 Liquid medium for the determination of H₂S production by *Clostridium perfringens* according to ISO 7937 standard.

Formula * in g/L

Peptone.....	5,000
Yeast extract.....	2,500
Sodium chloride.....	2,500
Lactose.....	10,000
L-Cysteine.....	0,300
Ferric ammonium citrate.....	0,624
Sodium disulfite.....	0,750

Final pH 7,1 ±0,2 at 25 °C

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Dissolve 21,6 g of powder in 1 L of distilled water and bring to the boil. Distribute into containers containing Durham tubes and sterilize in the autoclave at 121°C for 15 minutes.

Description

 This is a simple medium that selects *C. perfringens* over other sulfite reducing clostridia by their ability to produce gas from lactose, at 46°C. *C. parapfringens* also has this ability, however this microorganism is very rare in food samples.

Technique

 All of the freshly prepared or reconstituted media tubes are inoculated in duplicate with 1 mL of the sample dilution. The sample dilution must have previously been kept in a boiling water bath, for 10 minutes. Tubes are incubated in anaerobic conditions à 46°C for a period of 18-24 hours. *C. perfringens* presence is observed by an fer sulfide precipitate appearing in the tubes. It indicates sulfite reducing activity. Accumulation of gas in the Durham's tubes is a sign of lactose fermentation.

Quality control
Incubation temperature: 46°C ±0,5 / ANA **Incubation time:** 18 - 24 h

Inoculum: ≥ 10³ CFU (specificity) according to ISO 11133:2014/Amd 1:2018 & Adm 2:2020

Microorganism
Growth
Remarks

<i>Clostridium sporogenes</i> ATCC® 19404	Good	H2S (-) Gas (+)
<i>Clostridium perfringens</i> ATCC® 13124	Good	H ₂ S (+) Gas (+)
<i>Clostridium perfringens</i> ATCC® 10543	Good	H ₂ S (+) Gas (+)

References

- ISO Standard 7937 (2004) Microbiology of food and animals feeding stuffs. Horizontal method for enumeration of *Clostridium perfringens*. Colony count technique.
- PASCUAL ANDERSON, M^a R. (1992) Microbiología Alimentaria. Díaz de Santos. Madrid.
- ISO 11133:2014/ Adm 1:2018/ Adm 2:2020/ Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).