

Lactose Sulfite Broth Base ISO

Cat. 1009

For the confirmation of *Clostridium perfringens*.

Practical information

Applications	Categories
Confirmation	<i>Clostridium perfringens</i>

Industry: Food

Regulations: ISO 7937

Principles and uses

Lactose Sulfite Broth Base is a selective medium recommended by ISO 7937 for the confirmation of *Clostridium perfringens* based on lactose fermentation and production of hydrogen sulfide.

The nutrient base provides optimal conditions for the development of *Clostridium*. Casein peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is the source of vitamins, particularly of the B-group. Lactose is a complex carbohydrate energy source. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Cysteine hydrochloride is the reducing agent.

Colonies producing hydrogen sulfide are characterized by a blackening due to the reaction of Sodium bisulfite and the Ferric ammonium citrate salt. The containers showing a blackening and abundant formation of gas in the Durham tube (at least 1/10 of the volume) indicate the presence of *C. perfringens*.

Formula in g/L

Cysteine hydrochloride	0,3	Pancreatic digest of casein	5
Sodium chloride	2,5	Yeast extract	2,5
Lactose monohydrate	10		

Preparation

Suspend 20,3 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense 8 ml portions into tubes with Durham gas collecting tubes for gas detection. Sterilize in autoclave at 121 °C for 15 minutes. Before using add to each tube 0,5 ml of a 12 g/L solution of sodium metabisulfite and 0,5 ml of a solution of 10 g/L of ferric ammonium citrate. Both solutions have to be freshly prepared and sterilized.

Instructions for use

For the confirmation of *Clostridium perfringens* by using the Lactose Sulfite Broth according to ISO 7937:

- Inoculate each presumptive colony into Thioglycollate Medium.
- Incubate under anaerobic conditions at 37 °C for 18-24 hours. The turbidity should be 1-2 F.T.U.
- Transfer 5 drops of the thioglycollate culture to the Lactose Sulfite Broth (Cat. 1009).
- Incubate aerobically at 46 °C for 18 h to 24
- Examine the tubes of Lactose Sulfite Broth for the production of gas and the presence of a black color (iron sulfite precipitate).

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber	7,1±0,2

Microbiological test

Incubation conditions: (46 °C / 18-24 h / aerobic conditions).

Microrganisms	Specification	Characteristic reaction
Clostridium perfringens ATCC 13124	Good growth	Gas production (+), blackennig (+)

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

ISO Standard 7937 Microbiology of food and animals feeding stuffs. Horizontal method for enumeration of Clostridium perfringens. Colony count technique.

ISO 11133:2014. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media