

TSN Agar (Tryptone Sulfite Neomycin)

Cat. 1075

For the selective isolation of Clostridium perfringens from foods and other material

Practical information

Applications	Categories
Selective isolation	Clostridium perfringens

Industry: Food

Principles and uses

TSN Agar (Tryptone Sulfite Neomycin) is a selective medium that can be used in tubes or plates for the identification and enumeration of Clostridium perfringens in foods and other materials, especially from mixed contaminating flora.

The Casein peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Ferric citrate and Sodium sulfite are H₂S indicators. C. perfringens reduces the sulfite to sulfide which reacts with the iron and forms a black iron sulfide precipitate, seen as black colonies. Bacteriological agar is the solidifying agent. Polymyxin and Neomycin sulfates inhibit the growth of the majority of Enterobacteria and Clostridium bifermentans. The incubation at a temperature of 46°C allows specific and quantitative results.

Formula in g/L

Bacteriological agar	13,5	Casein peptone	15
Neomycin sulfate	0,05	Polymyxin B Sulfate	0,02
Sodium sulfite	1	Yeast extract	10
Ferric citrate	0,5		

Preparation

Suspender 40 gramos del medio en un litro de agua destilada. Mezclar bien y disolver por calentamiento con agitación frecuente. Hervir durante un minuto hasta disolver por completo. Distribuir en recipientes apropiados y esterilizar en autoclave a 118 ° C durante 15 minutos. NO SOBRECALENTAR.

Instructions for use

Inoculate medium with sample and incubate at 46 ±1°C for 18-24 hours. Use an anaerobic jar for incubation in a H₂/CO₂ atmosphere if possible. For aerobic incubation in tubes, cover the tubes with a layer of sterile medium. Read within half an hour after taking the plates out of the jars and observe for black colonies which can lose their color by oxidation in air after this time period

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, slightly opalescent	7,0 ± 0,2

Microbiological test

Incubation conditions: (46±1 °C / 18-24 h)

Microrganisms	Specification	Characteristic reaction
Clostridium perfringens ATCC 13124	Good growth	Black colony
Clostridium sporogenes ATCC 25781	Good growth	Black colony
Escherichia coli ATCC 25922	Inhibited growth	

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Angelotti, Nall, Foter y Lewis. Applied Microbiol. 10: 193. 1962. Mossel. J.SCI. Agr. 10: 662. 1959. Mossel de Bruin Van Diepen, Vendrig y Zoutwelle J. Applied Bact, 19: 142. 1956.

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