

TSN Agar (Tryptone Sulfite Neomycin)

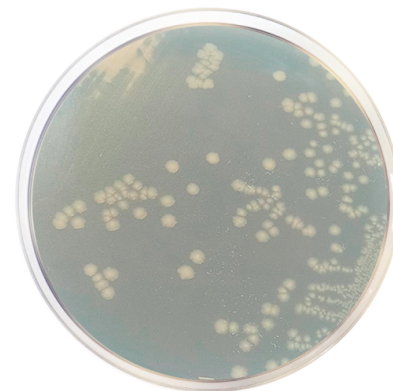
Cat. 1075

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

Practical information

Applications	Categories
Selective isolation	<i>Clostridium perfringens</i>

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		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 40 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 into appropriate containers and sterilize in autoclave at 118°C for 15 minutes. DO NOT OVERHEAT.

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)

Microorganisms	Specification	Characteristic reaction
Clostridium sporogenes ATCC 11437	Good growth	Black colony
Clostridium perfringens ATCC 13124	Good growth	Black colony
Escherichia coli ATCC 25922	Inhibited growth	
Pseudomonas aeruginosa ATCC 27853	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.