

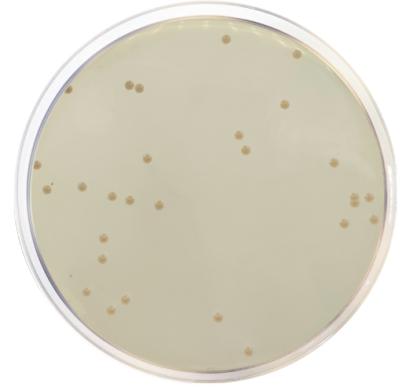
Iron Agar (Lyngby)

Cat. 1085

For the enumeration of H₂S producing bacteria.

Practical information

Applications	Categories
Selective enumeration	Hydrogen sulfide-producing bacteria
Detection	Hydrogen sulfide-producing bacteria
Industry: Food	



Principles and uses

Iron Agar (Lyngby) is used for the enumeration of H₂S producing bacteria.

Bacteriological peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly of the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Sodium thiosulfate is reduced to hydrogen sulfide, which reacts with the iron salt to give the black iron sulfide. L-Cysteine is added to detect the production of H₂S of bacteria that do not produce hydrogen sulfide from thiosulfate but only from the sulphur containing amino acid. Bacteriological agar is the solidifying agent. Bacteria capable of forming H₂S from either source of sulphur would appear as black colonies.

Formula in g/L

Bacteriological agar	14	Bacteriological peptone	20
Beef extract	3	Sodium chloride	5
Sodium thiosulfate	0,3	Yeast extract	3
Ferric citrate	0,3	L-Cysteine	0,6

Preparation

Suspend 46,2 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 tubes and sterilize in autoclave at 121 °C for 15 minutes.

Instructions for use

Agar stab method:

- Pick up the sample with a sterile needle.
- Stab the medium with the sterile needle until it is 1 cm from the bottom of the tube.
- Carefully remove the inoculation needle.
- Incubate at 30±2 °C for 3-4 days.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Clear beige	Amber slightly opalescent	7,4±0,2

Microbiological test

Incubation conditions: (30±2 °C / 3-4 days).

Microorganisms	Specification	Characteristic reaction
Pseudomonas fluorescens ATCC 13525	Good growth	White colonies
Aeromonas hydrophila ATCC 7966	Good growth	Black colonies

Storage

Temp. Min.: 2 °C
Temp. Max.: 25 °C

Bibliography

Gram, L., TRolle, G. and Huss, H.H (1987). Detection of specific spoilage bacteria from fish stored at low (0°C) and high (20°C) temperatures. *Int. J. Food Microbiol.*, 4:65-72.
Popovic, N. T. et al. (2010) Microbiological quality of marketed fresh and frozen seafood caught off the Adriatic coast of Croatia