



Reference : 02-138

Scharlau Microbiology - Technical data sheet

Product :
NITRATE BROTH



Specification

Liquid culture medium used for verifying the nitrate reducing ability of enterobacteria.

Formula * in g/L

Meat extract..... 3.0
Peptone..... 5.0
Potassium nitrate..... 1.0

Final pH 7,0 ±0,2 at 25 °C

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

Directions

Dissolve 9 g of powder in 1 L of distilled water, heating only if necessary to dissolve. Distribute into final containers and sterilize in the autoclave at 121°C for 15 minutes.

Description

Nitrate Broth is prepared according to the classical formula for testing nitrate reduction by enterobacteria, although it can also be used with other bacterial types.

Technique

Inoculate 2-3 tubes of broth with one loop of pure culture and incubate at 37°C, reading after 1 day, 2 days and 5 days. To each tube, add several drops of Nitrate A Reagent (Art. No. 06-003) and also Nitrate B Reagent (Art. No. 06-004). If all readings remain negative, it is recommended to investigate for the presence of nitrate by the addition of using zinc powder. Production of a red colour after the addition of zinc indicates unreduced nitrate and a negative result. The absence of colour indicates nitrate was reduced beyond nitrate and a positive result.

Quality control

Incubation temperature: 37°C ±1,0

Incubation time: 18-24 h

Inoculum: ≥ 10³ CFU (specificity) according to ISO 11133:2014/Amd 1:2018 & Adm 2:2021.

Microorganism

Salmonella typhimurium ATCC® 14028

Escherichia coli ATCC® 25922

Escherichia coli ATCC® 8739

Pseudomonas aeruginosa ATCC® 27853

Growth

Good

Good

Good

Good

Remarks

Nitrate (+)

Nitrate (+)

Nitrate (+)

Nitrate (+)



Left: *Escherichia coli* ATCC 25922
Center: *Escherichia coli* ATCC 8739
Right: Negative nitrate (Control)

References

- ATLAS, R.M., L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press, Inc. London.
- DOWNES, F.P. & K. ITO (2001) Compendium of Methods for the Microbiological Examination of Foods. 4th ed. APHA. Washington.
- FDA (Food and Drug Administrations) (1998) Bacteriological Analytical Manual. 8th ed. Rev. A. AOAC International Inc. Gaithersburg. MD.

Storage

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



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