



Reference : 02-105

Scharlau Microbiology - Technical data sheet

Product :  
LACTOSE BROTH

**Specification**

Medium for pre-enrichment and detection of enterobacteria and coliforms in milk and water according to ISO standards.

**Formula \* in g/L**

Peptone of gelatin.....	5.0
Meat extract.....	3.0
Lactose.....	5.0

Final pH 6.9 ±0.2 at 25 °C

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

**Directions**

Add 13 g of powder to 1 L of distilled water, or in the quantity required for the desired concentration. Dissolve and distribute into containers fitted with Durham tubes. Sterilize in the autoclave at 121°C for 15 minutes. Avoid further reheating.

**Description**

Lactose Broth is a classical medium for use in the presumptive testing for coliforms and for the enrichment of *Salmonella*. This formulation is per the standards recommended by APHA, AWWA, USP-NF and ISO. Since 2012, the ISO has adopted more selective and / or differential media such as LST, BLBVB and Colilert, replacing C. Lactosado. It is commonly used with Durham fermentation tubes for the detection of gas formation. If a specific volume of sample is to be inoculated this must be taken into consideration when making up the medium as the concentration must not be altered on addition of the inoculum. Although it is not Eijkman's original formulation, this broth provides excellent results in assays of gas production at 44,5°C ±0,5, which is a characteristic of *Escherichia coli*. While preparing this medium it is important to avoid overheating and to distribute it into tubes before sterilization.

**Quality control**

**Incubation temperature:** 37 ± 1 °C                      **Incubation time:** 24 ± 2 h  
**Inoculum:** ≤100 CFU min. 50 CFU (productivity), according to ISO 11133:2014/Amd 1:2018.

**Microorganism**

*Pseudomonas aeruginosa* ATCC® 27853  
*Enterococcus faecalis* ATCC® 29212  
*Escherichia coli* ATCC® 8739  
*Escherichia coli* ATCC® 25922  
*Salmonella typhimurium* ATCC® 14028  
*Citrobacter freundii* ATCC® 43864

**Growth**

Good  
Good  
Good  
Good  
Good  
Good

**Remarks**

Gas (-). Durham tube  
Gas (-). Durham tube  
Gas (+). Durham tube  
Gas (+). Durham tube  
Gas (-). Durham tube  
Gas (+). Durham tube



Left: Uninoculate tube (Control)  
Center: *Escherichia coli* ATCC 25922  
Right: *Salmonella typhimurium* ATCC 14028



"Detail"



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### References

- APHA-AWWA-WPCF (1998) Standard methods for the examination of water and wastewater. 20th ed. APHA Washington.
- 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. Gaithersburg. VA. USA.
- ISO 9308-2 Standard. (1990) Water Quality - Detection and enumeration of coliform organisms, thermotolerant coliform and presumptive E. coli - MPN technique.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- ISO 21150:2006 Standard. Cosmetics - Detection of Escherichia coli.
- US PHARMACOPOEIA (2005) <61> Microbial limit test. US Pharmacopeial Conv. Inc. Rockville. MD. USA.
- VANDERZANT & SPLITTSTOESSER (1992) Compendium of Methods for the Microbiological Examination of Foods. 3rd ed. APHA. Washington.

### Storage

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