

Lactose Broth - Instructions for Use

Intended Use

BACGro™ Lactose Broth, when prepared as directed, is intended for use as a non-selective pre-enrichment for *Salmonella* species from a wide variety of food matrices. Lactose Broth also supports the growth and detection of coliforms from various food matrices. Lactose Broth is not intended for use in diagnosis, treatment, or prevention of disease in humans.

Product Summary

Lactose Broth is a recommended non-selective pre-enrichment broth for *Salmonella* in foods and dairy products. In some cases, *Salmonella* may be present in low numbers, requiring a pre-enrichment step to grow the organism to detectable levels. Further, various food processing steps may lead to sub-lethal injury of *Salmonella*, which subsequently may not be recovered by direct detection methods. Lactose Broth allows for recovery and growth of these organisms prior to detection. The absence of selective agents reduces stress on the cells.

Lactose Broth is also used for the growth and detection of coliforms, which by definition ferment lactose. Fermentation of lactose produces acid and gas.

Gelatin Peptone and Beef Extract serve as the source of carbon and nitrogen to satisfy growth requirements, and lactose is the carbohydrate source. For further information on which food matrices are recommended for enrichment with Lactose Broth, refer to the FDA's Bacteriological Analysis Manual (BAM)¹ and the USDA's Microbiology Laboratory Guidebook (MLG)².

Formulation (per Liter)*

Gelatin Peptone	5.0 g
Lactose	5.0 g
<u>Beef Extract</u>	<u>3.0 g</u>
Total	13.0 g/L

*Formula may be supplemented and/or adjusted as required to meet performance criteria

Directions

1. Add 13 g of Lactose Broth powder to 1 L of deionized water.
2. Stir to dissolve completely.
3. Autoclave at 121 degrees Celsius for 15 minutes.
4. Cool prior to use.

Precautions

This product is for laboratory use only and should only be used by qualified, trained laboratory personnel. Personnel should always use proper aseptic technique and observe all biohazardous precautions. All microbiological cultures should be presumed to be infectious.

Avoid ingestion, inhalation, or contact with skin and mucous membranes. If contact occurs, flush the area with clean water.

Quality Control Specifications

Gold Standard Diagnostics tests each lot of manufactured BACGro™ culture media utilizing appropriate control organisms and specifications as documented on the Certificate of Analysis. End users should perform quality control testing in accordance with government regulatory requirements and accreditation guidelines. The following specifications are routinely used for testing:

Appearance (dehydrated): Light beige, homogenous, free flowing powder, free of debris

Appearance (prepared): Clear, pale yellow to amber, with no precipitate or debris

pH (prepared): 6.7 – 7.1 at 25°C

Organism Performance:

Strain ID	Inoculum	Incubation			Result
		Time	Temp.	Environment	
<i>S. enterica</i> ser. Enteritidis (ATCC® 13076)	<100 CFU	18 – 48 hr.	35° C	Aerobic	Growth, no gas production
<i>S. enterica</i> ser. Typhimurium (ATCC® 14028)	<100 CFU	18 – 48 hr.	35° C	Aerobic	Growth, no gas production
<i>Escherichia coli</i> (ATCC® 25922)	<100 CFU	18 – 48 hr.	35° C	Aerobic	Growth, + gas production
<i>Enterococcus faecalis</i> (ATCC® 29212)	<100 CFU	18 – 48 hr.	35° C	Aerobic	Growth, no gas production

Limitations of the Procedure

This product is not labeled for use as a medical device, and is not intended to diagnose, treat, or prevent disease.

Due to variation in nutritional requirements, some strains may be encountered that grow poorly in this medium. Competing flora in the test sample may outgrow *Salmonella* and affect recovery.

Further testing is required for the identification and confirmation of *Salmonella*.

Storage and Expiration

BACGro™ Lactose Broth should be stored at 2 – 30 degrees Celsius. Because of the hygroscopic nature of dehydrated culture media, it should be stored in a dry place and the lid should remain tightly sealed. Media should be discarded if it is not free flowing or shows discoloration.

The expiration date printed on the label is applicable to media stored as directed.

Catalog Numbers

DCM1401- Lactose Broth, 500g

DCM1410- Lactose Broth, 10kg

¹ US Food and Drug Administration. *Microbiological Methods and Bacterial Analytical Manual (BAM)*.
<https://www.fda.gov/food/laboratory-methods-food/microbiological-methods-bacteriological-analytical-manual-bam>

² US Department of Agriculture, Food Safety and Inspection Service. *Microbiology Laboratory Guidebook*.
<https://www.fsis.usda.gov/wps/portal/fsis/topics/science/laboratories-and-procedures/guidebooks-and-methods/microbiology-laboratory-guidebook/microbiology-laboratory-guidebook>

Revision History:

Revision	Description	Effective Date
03	Updated incubation time to 18 – 48 hr. to match industry standard.	13-MAR-2024
02	Periodic Review. No changes required.	14-JUL-2022
01	Document creation	13-AUG-2019