BACGro™ Culture Media

GOLD STANDARD DIAGNOSTICS

UVM Modified Listeria Enrichment Broth - Instructions for Use

Intended Use

BAC*Gro*™ UVM Modified Listeria Enrichment Broth (hereafter referred to as UVM) when prepared as directed, is intended for use as a selective enrichment broth for *Listeria* spp. UVM is not intended for use in diagnosis, treatment, or prevention of disease in humans.

Product Summary

The *Listeria* genus is ubiquitous in our environment, and while most species do not cause disease in humans, *L. monocytogenes* does pose a human health threat, especially in immunocompromised individuals and pregnant women. *Listeria* is commonly found in food manufacturing environments and outbreaks have been reported from many different food sources, including meats and dairy products. *Listeria* presents a challenge in food production environments because is able to grow in environments ranging from pH of 5.0 – 9.6 and at refrigerated temperatures.

UVM is a modified formula of the *Listeria* Enrichment Broth described by Donnelly and Baigent[1]. A blend of casein peptone, enzymatic digest of animal tissue, beef extract, and yeast extract provide the nitrogen sources needed for growth, along with vitamins and minerals to support cellular function. Phosphate salts act as the buffering agents, while sodium chloride maintains osmotic balance. Nalidixic Acid and Acriflavin inhibit Gram negative bacteria and Gram positive bacteria other than *Listeria*.

Formulation (per Liter)*

Casein Peptone	5.0 g
Gelatin Peptone	5.0 g
Beef Extract	5.0 g
Yeast Extract	5.0 g
Sodium Chloride	20.0 g
Disodium Phosphate	9.6 g
Monopotassium Phosphate	1.35 g
Esculin	1.0 g
Acriflavin	0.012 g
Nalidixic Acid	0.02 g
Total	52.0 g/L

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

Directions

1. Dissolve 52g of UVM Modified Listeria Enrichment Broth powder into 1L purified water.
2. Stir to completely dissolve.
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. IRRITANT: can cause irritation to eyes, respiratory tract, and skin.

Quality Control Specifications

Gold Standard Diagnostics tests each lot of manufactured BAC*Gro*™ 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): Beige, homogenous, free flowing powder, free of debris

Appearance (prepared): Green to yellow with blue-green ring at the top. Slight opalescence.

pH (prepared): 7.0 – 7.4 at 25°C

Organism Performance:

Listeria strains are tested in mixed culture as specified by ISO 11133:2014 and subcultured to a selective *Listeria* plate following incubation.

Strain ID	Inoculum	Incubation			Growth	Recovery on TSA	Recovery on Selective *Listeria* Media
		Time	Temp.	Environment			
L. monocytogenes (ATCC® 13932) *E. coli* (ATCC® 25922)	10-100 CFU ≥10,000 CFU	22-26 hr.	30° C	Aerobic	Growth, blackening	N/A	>10 typical *Listeria monocytogenes* colonies
L. monocytogenes (ATCC® 35152) *E. coli* (ATCC® 25922)	10-100 CFU ≥10,000 CFU	22-26 hr.	30° C	Aerobic	Growth, blackening	N/A	>10 typical *Listeria monocytogenes* colonies
E. coli (ATCC® 25922)	≥10,000 CFU	22-26 hr.	30° C	Aerobic	No Growth	No Growth	N/A

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. *Listeria monocytogenes* must be confirmed through other biochemical and serological testing. Other *Listeria* spp. can grow on isolation media.

Storage and Expiration

BAC*Gro*™ UVM Modified Listeria Enrichment 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

DCM1905- UVM Modified Listeria Enrichment Broth, 5kg
DCM1910- UVM Modified Listeria Enrichment Broth, 10kg

[1]Donnelly, C. W., and G. J. Baigent. 1986. Method for flow cytometric detection of Listeria monocytogenes in milk. Appl. Environ. Microbiol. 52:689- 695.