



Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Buffered Peptone Water w / pyruvate

Product Code: DM 2851

Application: - Buffered Peptone Water w/ Pyruvate is recommended for the isolation of Enterohemorrhagic *E. coli* (EHEC).

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Lactose	10.000
Yeast extract	6.000
Casein acid hydrolysate	5.000
Sodium chloride	5.000
Sodium phosphate, dibasic	3.600
Potassium phosphate, monobasic	1.500
Sodium pyruvate	1.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Enterohaemorrhagic *E. coli* (EHEC) can cause severe food borne disease. EHEC is the primary cause of hemorrhagic colitis. This infection can also lead to hemolytic uremic syndrome (1). It is transmitted to humans primarily through consumption of contaminated foods, such as raw or undercooked ground meat products and raw milk. Its significance as a public health problem was recognized in 1982, following an outbreak in the United States of America. EHEC produces toxins, known as verotoxins or Shiga-like toxins because of their similarity to the toxins produced by *Shigella dysenteriae* (2).

Casein enzymic hydrolysate, Casein acid hydrolysate and Yeast extract serve as a carbon and nitrogen sources in the medium. Phosphates buffer the medium. The phosphate buffer system prevents bacterial damage due to changes in the pH of the medium. Sodium chloride maintains the osmotic balance. Lactose acts as a carbon source.

Antibiotic supplement contains Acriflavin, Cefsulodin, and Vancomycin which effectively suppress the normal flora while allow the growth of *Escherichia coli* O157:H7 (1).

After the sample has been prepared, material will be placed in Buffered Peptone Water w/Pyruvate and incubated at 37 ± 1 °C for 5 hours.

Next add rehydrated contents of one vial of Acriflavin-Cefsulodin-Vancomycin Supplement (ACV Supplement,

MS 2284) and incubate at 42 ± 1 °C for 18-24 hours.

Methodology

Suspend 21.05 grams of dehydrated powder media in 500 ml distilled water. Mix thoroughly & heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add the rehydrated contents of one vial of Acriflavin- Cefsulodin-Vancomycin Supplement (ACV Supplement, MS 2284).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder



Colour and Clarity

Amber coloured, clear solution without any precipitate

Reaction

Reaction of 4.21% w/v aqueous solution at 25°C. pH : 7.2±0

Ph Range

7.00-7.40

Cultural Response

DM 2851: Cultural characteristics observed with an added Acriflavin- Cefsulodin- Vancomycin Supplement (ACV Supplement, MS 2284) after an incubation at 42± 1 °C for 18-24 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response <i>Escherichia coli</i> O157:H7(NCTC 12900)	50-100	good	40-50%
<i>Staphylococcus aureus</i> (25923)	>=10 ³	inhibited	0%
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	good	40-50%
<i>Enterococcus faecalis</i> (29212)	>=10 ³	inhibited	0%
<i>Escherichia coli</i> (25922)	>=10 ³	inhibited	0%

Storage and Shelf Life

Dried Media: Store below 10-30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalmanualBAM/default.htm
2. www.who.int/mediacentre/factsheets/fs125/en/

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
- Central Drug House Pvt. Ltd. reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents. Do not use the products if it fails to meet specifications for identity and performance parameters.