

Peptone Water/Broth (Indole-Free)

355-4180
356-4334

DEFINITION

A liquid medium permitting the growth of non-fastidious bacteria, used particularly for the detection of indole production during the IMVIC test following detection of suspected fecal coliforms and *Escherichia coli* in food.

STANDARDS

FOOD MICROBIOLOGY

- **NF ISO 11866-1 (September 2006):** Milk and dairy products - Enumeration of presumptive *Escherichia coli* - Part 1: Most Probable Number technique using 4-methylumbelliferyl- β -D-glucuronide(MUG)
- **NF ISO 7251 (July 2005):** Microbiology - Horizontal method for the detection and enumeration of presumptive *Escherichia coli* - Most probable number technique
- **FIL 170 (1994):** Milk and dairy products - Enumeration of suspected *Escherichia coli* using the Most Probable Number technique
- **NF EN ISO 16654 (July 2001):** Food microbiology - Horizontal method for the detection of *Escherichia coli* O157

WATER

- **NF T90-413 (October 1985):** Water test - Detection and enumeration of coliforms and thermotolerant coliforms - General method by inoculation in liquid medium (MPN)
- **NF T90-461/A2 (May 2007):** Water quality - Microbiology - Quality control for culture media
- Bacteriological analytical methods for testing shellfish (Circular DGAL/SVHA/C 88/N°8003 dated 28 April 1988)

PRINCIPLE

The principle of the medium relies on the ability or otherwise of bacteria to produce indole, detected by means of Kovacs reagent (red coloration).

PRESENTATION

- **Dehydrated**
500 g code 356-4334
- **Ready to use**
9 ml x 25 tubes code 355-4180

STORAGE

- Ready to use: +2-25°C
- Dehydrated: +15-25°C, in carefully-sealed bottles in a cool, dry place
- Expiration date and batch number are shown on the package.

THEORETICAL FORMULA

Bacteriological peptone	10 g
Sodium chloride	5 g
Distilled water	1,000 ml
Final pH (25°C) = 7.2 ± 0.2	

OTHER PRODUCTS REQUIRED

(NOT SUPPLIED)

- **Distilled water**
- **Kovacs reagent**
15 ml x 2 bottles (code 355-5313)

See corresponding Technical Sheet(s)

EQUIPMENT REQUIRED (NOT SUPPLIED)

(non-exhaustive)

- Scales
- Sterile weighing bags
- Grinder
- Hotplate
- Mixer-homogenizer
- Test tubes (16 x 160 mm) with autoclave-proof stoppers
- Thermostatically-controlled incubator or incubating room, precise to $\pm 1^\circ\text{C}$
- Autoclave
- All usual laboratory equipment

PREPARATION OF DEHYDRATED MEDIUM

Always shake before use.

Dissolve 15 g of powder in 1 liter of distilled water. Mix thoroughly until completely dissolved. Dispense 10 ml per tube and sterilize in autoclave at $121^\circ\text{C} \pm 1^\circ\text{C}$ for 15 minutes.

Reconstitution ratio: 15 g/l

500 g of powder makes 33.3 liters of medium.

PROTOCOL

Inoculation and incubation

Inoculate with the test bacterial culture and incubate at $37^\circ\text{C} \pm 1^\circ\text{C}$ for 24-48 hours.

READING AND INTERPRETATION

After adding 0.5 ml of Kovacs reagent, the reaction is positive if red coloration appears.

PRECAUTIONS

- The time lapse between the end of preparation of the stock solution (or the 10^{-1} dilution in the case of a solid product) and the moment when the dilutions come into contact with the culture medium must not exceed 15 minutes.
- Comply with Good Laboratory Practice.

PERFORMANCES/QUALITY CONTROL OF THE TEST

The growth performances of the media are verified with the following strains:

STRAINS	Culture and indole production after 24 hr at 37°C
<i>Escherichia coli</i> ATCC 25922	Culture + / Indole +
<i>Escherichia coli</i> RIVM WR1*	Culture + / Indole +
<i>Salmonella Enteritidis</i> ATCC 13076	Culture + / Indole -
<i>Proteus vulgaris</i> ATCC 13315	Culture + / Indole +
<i>Proteus mirabilis</i> ATCC 25933	Culture + / Indole -
<i>Enterobacter aerogenes</i> ATCC 13048	Culture + / Indole -

* RIVM WR1 is equivalent to NCTC 13167

Every product manufactured and marketed by Bio-Rad is subject to a quality-assurance procedure at all stages, from the reception of raw materials to the marketing of the end-product. Each batch of finished product undergoes quality control and is marketed only if it satisfies the acceptability criteria.

Documentation relative to the production and control of each batch is kept on file.

KEY WORDS

Indole-free peptone
water/Coliforms/*Escherichia coli*/Food products/
Indole/Detection/Medium

QUALITY CONTROL OF MANUFACTURER