Neo Enrichment Broth Base

**Intended Use:**
Used as a selective enrichment broth for *Listeria* species from food samples.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone special</td>
<td>28.000</td>
</tr>
<tr>
<td>Carbohydrate mix</td>
<td>6.000</td>
</tr>
<tr>
<td>Salt mix</td>
<td>10.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.4±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters**

**Directions**

Suspend 22 grams in 500 ml purified / distilled water. 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 rehydrated contents of 1 vial of Neo Enrichment Selective Supplement (FD249). Mix well and dispense in sterile test tubes or flasks as desired.

**Warning:** Salt mix of this medium contains harmful substance. Avoid bodily contact and inhalation of vapours. On contact with skin, wash with plenty of water immediately.

**Principle And Interpretation**

Neo Enrichment Broth Base is a medium developed for the selective enrichment and isolation of *Listeria* species from food samples.

Recovery of *Listeria* species can be achieved in 24 hours using Neo Enrichment Broth. This allows the early detection of *Listeria* species as primary and secondary enrichment steps are avoided, which are time consuming. Neo Enrichment Broth Base therefore, is a single enrichment medium, which eliminates the need of secondary enrichment and the recovery levels of *Listeria* species at 24 hours are comparable to the ISO enrichment method.

This medium contains peptone special, mixture of salts and carbohydrates to give optimal recovery and growth of *Listeria* species from food samples after 24 hours. *Listeria monocytogenes* hydrolyses esculin (which is available in carbohydrate mix) to form esculetin and dextrose. Esculetin reacts with ammonium ferric citrate (which is available in salt mix) producing blackening. The medium is rendered selective by addition of selective supplement.

For the enrichment, 25 grams of food sample is added to 225 ml of Neo Enrichment Broth in a stomacher bag. Homogenize the material if required. Incubation is carried out at 30°C for 24 hrs and the sample is subcultured on suitable agar medium.

**Type of specimen**

Food and dairy samples.

**Specimen Collection and Handling:**

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines.

After use, contaminated materials must be sterilized by autoclaving before discarding.

**Warning and Precautions:**

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

**Limitations:**

1. Due to variable nutritional requirements, some strains show poor growth on this medium.

**Performance and Evaluation**

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Please refer disclaimer Overleaf.
HiMedia Laboratories

Technical Data

Escherichia coli ATCC 25922 (00013*)

Listeria monocytogenes subsp. serovar 1 ATCC 19111 (00020*)

Listeria monocytogenes ATCC 19112

Listeria monocytogenes ATCC 19117

Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)

Key : * - Corresponding WDCM numbers

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Yellow coloured clear to slightly opalescent solution having a bluish tinge

Reaction
Reaction of 4.4% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

Cultural Response
Cultural characteristics observed with added Neo Enrichment Selective Supplement (FD249), after an incubation at 35-37°C for 24 hours

Organism

<table>
<thead>
<tr>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Esculin hydrolysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escherichia coli ATCC 25922 (00013*)</td>
<td>&gt;=10⁴</td>
<td>inhibited</td>
</tr>
<tr>
<td>Listeria monocytogenes subsp. serovar 1 ATCC 19111 (00020*)</td>
<td>50-100</td>
<td>good-luxuriant positive, reddish brown colouration of medium</td>
</tr>
<tr>
<td>Listeria monocytogenes ATCC 19112</td>
<td>50-100</td>
<td>good-luxuriant positive, reddish brown colouration of medium</td>
</tr>
<tr>
<td>Listeria monocytogenes ATCC 19117</td>
<td>50-100</td>
<td>good-luxuriant positive, reddish brown colouration of medium</td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)</td>
<td>&gt;=10⁴</td>
<td>inhibited</td>
</tr>
</tbody>
</table>

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

2. ISO 11290 - 1 : Microbiology of food and animal feeding stuffs horizontal method for the detection and enumeration of Listeria monocytogenes, 1996.

Please refer disclaimer Overleaf.