

# TRYPTONE SOYA YEAST EXTRACT AGAR (TSYEA)

## ISOLATION OF *LISTERIA*

### 1 INTENDED USE

TSYEA is a universal medium used in a number of applications or protocols. Given its excellent nutritive value, it is often used for the isolation and purification of microorganisms obtained from selective media (i.e. PALCAM agar, Oxford agar, **COMPASS® *Listeria* Agar**, etc.) for detection or enumeration of *Listeria*, and more specifically, *Listeria monocytogenes* according to the standards currently in vigor.

The typical composition corresponds to that defined in the standards NF EN ISO 11290-1 and NF EN ISO 11290-2.

### 2 PRINCIPLES

The association of Tryptone, papaic digest of soybean meal, yeast extract and glucose results in a synergy between the protein contribution of the casein, sugars from the soy peptone and glucose, and vitamins from yeast extract, allowing optimal growth for a number of both fastidious and non-fastidious bacteria.

Dipotassium phosphate acts as a buffering agent. By maintaining the pH, the recovery capacity of the medium is increased.

Sodium chloride maintains the osmotic equilibrium.

### 3 TYPICAL COMPOSITION

The composition can be adjusted in order to obtain optimal performance.

For 1 liter of media:

- Tryptone .....	17.0 g
- Papaic digest of soybean meal .....	3.0 g
- Yeast extract .....	6.0 g
- Glucose .....	2.5 g
- Dipotassium phosphate.....	2.5 g
- Sodium chloride .....	5.0 g
- Bacteriological agar.....	12.0 g

pH of the ready-to-use media at 25 °C : 7,3 ± 0,2.

### 4 PREPARATION

#### Preparation from dehydrated media:

- Dissolve 48,0 g of dehydrated media (BK224) in 1 liter of distilled or demineralized water.
- Slowly bring to a boil, stirring with constant agitation until complete dissolution.
- Dispense in tubes or vials.
- Sterilize in an autoclave at 121 °C for 15 minutes.
- Cool and maintain the media in a molten state at 44-47 °C.
- Pour into sterile Petri plates and let solidify on a cool, flat surface.
- Dry the plates in an incubator, covers partially removed.

✓ **Reconstitution:**  
48,0 g/L

✓ **Sterilization:**  
15 min at 121 °C

## 5 INSTRUCTIONS FOR USE

- On the surface of the prepared plates, inoculate by streaking colonies taken from the selective media used, in order to obtain isolated, individual colonies.
- Incubate at 37 °C for 18 to 24 hours or until a sufficient amount of time allowing typical colonies of 1 to 2 mm in diameter.
- These typical colonies will then be submitted for biochemical identification tests.

✓ **Inoculation:**  
Surface plating

✓ **Incubation :**  
18 to 24 h at 37 °C

## 6 QUALITY CONTROL

**Dehydrated media:** white cream powder, free-flowing and homogeneous.

**Prepared media:** Amber agar.

Typical culture response after 24 hours of incubation at 37 °C (NF EN ISO 11133):

Microorganisms		Growth
<i>Listeria monocytogenes</i> 4b	WDCM 00021	Good, score 2
<i>Listeria monocytogenes</i> 1/2a	WDCM 00109	Good, score 2

## 7 STORAGE / SHELF LIFE

**Dehydrated media:** 2-30 °C.

The expiration dates are indicated on the label.

**Prepared media in tubes or vials (\*):** 180 days at 2-25°C.

**Prepared media in plates (\*):** 30 days at 2-8 °C.

(\* ) Benchmark value determined under standard preparation conditions, following manufacturer's instructions.

## 8 PACKAGING

**Dehydrated media**

500 g bottle ..... BK224HA

**Ready-to-melt media:**

50 x 18 mL tubes ..... BM10808

## 9 BIBLIOGRAPHY

NF EN ISO 11133. July 2014. Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media.

NF EN ISO 11290-1. July 2017. Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. - Part 1: detection method.

NF EN ISO 11290-2. July 2017. Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. - Part 2: enumeration method.

## 10 ADDITIONAL INFORMATION

**COMPASS®** is a registered trademark of SOLABIA S.A.S

The information provided on the labels take precedence over the formulations or instructions described in this document and are susceptible to modification at any time, without warning.

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