

**Product :
TRYPTONE AND SOY YEAST EXTRACT
AGAR (TSYEA)**
Formula * in g/L

Tryptone.....	17.00
Yeast Extract.....	6.00
Soybean Peptone.....	3.00
Sodium chloride.....	5.00
Dextrose	2.50
Di-Potassium Phosphate.....	2.50
Agar.....	15.00

Final pH at 25°C 7.3 ± 0.2

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 51 g of powder in 1 L of distilled water and bring to the boil. Distribute into containers and sterilize in the autoclave at 121°C for 15 minutes.

Description

The Tryptone and Soybean with Yeast Extract Agar (TSYEA) is a general-purpose culture medium that supports the growth of a wide variety of microorganisms, including some of the fastidious ones. At the time it was included in the food control methodology by different private and official organizations (APHA, AOAC, FDA, LFGB).

The current formulation is the one prescribed in the ISO 11290: 2017 standards for the maintenance and subculture of the presumed *Listeria* colonies until their definitive identification through morphological examinations (Henry's technique) and biochemical or serological tests.

Technique

To carry out the different tests and examinations for each sample and/or organism, the technician is referred to the methodological protocols established and in force in their working area.

Quality control

Incubation temperature:	37 ± 1°C	Incubation time:	21±3h
Inoculum:	Practical range 100 ± 20 CFU. Min. 50 CFU (Productivity)		
Microorganism	Growth	Remarks	
<i>Listeria monocytogenes</i> ATCC® 13932	Productivity > 0.70	-	
<i>Listeria monocytogenes</i> ATCC® 35152	Productivity > 0.70	-	

References

- ATLAS, R.M. (1993) Handbook of Microbiological Media. CRC Press Boca Raton Florida
- LACHICA, R.V. (1990) Simplified Henry technique for initial recognition of *Listeria* colonies. Appl. Environ. Microbiol. 56:4:1164
- FDA (2005) Bacteriological Analytical Manual 8th ed. Revision A. AOAC Int. Gaithersburg. Ge. USA
- HITCHINS, A.D. (ret.), K. Jinneman & Yi Chen. Detection of *Listeria monocytogenes* in Foods and Environmental Samples, and Enumeration of *Listeria monocytogenes* in Foods. Trypticase soy agar with 0.6% yeast extract (TSAYE) (M153) in Bacteriological Analytical Manual Chapter 10 <https://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm2006949.htm>
- ISO 11133:2014 Standard. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- ISO 11290-1:2017 Standard. Microbiology of the food chain. Horizontal method for the detection and enumeration of *Listeria monocytogenes* and for *Listeria* spp.- Part 1: Detection Method
- ISO 11290-2:2017 Standard. Microbiology of the food chain. Horizontal method for the detection and enumeration of *Listeria monocytogenes* and for *Listeria* spp.- Part 2: Enumeration Method
- LFGB (2005) Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch (Lebensmittel- und Futtermittelgesetzbuch - LFGB) § 64 Amtliche Sammlung von Untersuchungsverfahren
- LOVETT, J. & A.D. HITCHINS (1989) *Listeria* isolation. FDA Bacteriological Analytical Manual. 6th ed. Supp. Sept.1987 (2nd Print):29.01
- VANDERZANT, C y D.F. SPLITTSTOESSER (1992) Compendium of methods for the microbiological examination of foods. APHA. Washington DC.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).