

**CARBOHYDRATE CONSUMPTION BROTH BASE****TM 1159**

For cultivation and differentiation of *Listeria* species

Composition

Ingredients	Gms/Ltr.
Proteose peptone	10.00
Sodium chloride	5.00
Beef extract	1.00
Bromocresol purple	0.10

* Dehydrated powder, store in a dry place, in tightly-sealed containers at 24°C and protect from direct sunlight.

Instructions for Use

Dissolve 16.10gms in 1000ml of distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes. Cool to 45 - 50°C and then aseptically add 10ml of carbohydrate solution to give a final concentration of 0.5% in the medium. Mix well the medium properly before pouring into the sterile tubes. Put the Durham tubes in inverted positions to detect the gas production.

Appearance: Purple colour, clear solution

pH (at 25°C): 6.8 ± 0.2

Principle

CARBOHYDRATE CONSUMPTION BROTH BASE is used for cultivation and differentiation of *Listeria* species. The media specifications are formulated by Atlas and also according to the rules and recommendations of FDA and ISO. *Listeria* is a species of Gram positive bacillus and are the well known human pathogens causing severe infections primarily in pregnant women, newborns and other immunocompromised individuals due to the ingestion of contaminated food products into the body. *Listeria monocytogenes* is the most prevalent genus of bacteria in this species, causing the relatively rare bacterial disease listeriosis. The medium contains Proteose peptone and Beef extract to provide the carbonaceous and nitrogenous compounds along with the essential amino acids and vitamins to support the growth of the bacteria in the medium. Sodium chloride is used to control the osmotic balance of the medium. The carbohydrate added can utilize for the fermentation reactions by the bacteria growing in the medium. The acidic condition occurs due to the fermentation lowers the pH of the medium. The added indicator Bromocresol purple visualizes the presence of the fermentation reaction by changing the colour of the medium to yellow in the low pH.

Interpretation

Cultural characteristics observed after inoculating the organisms and subsequent incubation at 35 – 37°C for 18 – 48 hours.

PRODUCT DATA SHEET

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth	Fermentation reactions			
				w/o carbohydrate		w/ 5% Rhamnose	
				Acid	Gas	Acid	Gas
<i>Listeria monocytogenes</i>	19112	10 ³ – 10 ⁵	Luxuriant	-ve	-ve	+ve, yellow coloured medium	-ve
<i>Listeria monocytogenes</i>	19118	10 ³ – 10 ⁵	Luxuriant	-ve	-ve	+ve, yellow coloured medium	-ve
<i>Escherichia coli</i>	25922	10 ³ – 10 ⁵	Good	-ve	-ve	+ve, yellow coloured medium	+ve
<i>Staphylococcus aureus</i>	25923	10 ³ – 10 ⁵	Good	-ve	-ve	-ve	-ve

References

1. Atlas R. M. 2004. Handbook of Microbiological Media, 3rd Edition, CRC Press, Washington D. C.
2. FDA Bacteriological Analytical Manual. 2005. 18th Ed., AOAC, Washington, D.C.
3. International Organization for Standardization (ISO). 1993. Draft ISO/DIS 10560.