

80547 Rhamnose Broth (Carbohydrate Utilization Broth)

For the biochemical differentiation of *Listeria* subspecies. It is also base media for the Methyl α -D-mannopyranoside Broth.

Composition:

Ingredients	Grams/Litre
Peptone from meat	10.0
Meat extract	1.0
Sodium chloride	5.0
Bromocresol purple	0.02
Final pH 6.8+/- 0.2 at 25 °C	

Store prepared media below 8 °C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 2-25 °C.

Directions:

Dissolve 16 g in 1 litre distilled water and sterilize by autoclaving at 121°C for 15 minutes. After cooling to 45-50°C mix 4.5 ml liquid broth with either 0.5 ml filter sterilized 5% L-Rhamnose solution (made of Cat. No. 83650) or 0.5 ml filter sterilized 5% D-Xylose solution (made of Cat. No. 95729) or 0.5 ml filter sterilized 5% Methyl- α -D-mannopyranoside Supplement (Cat. No. 02046).

Principle and Interpretation:

Peptone from meat and meat extract provide nitrogenous compounds, carbon, sulfur and trace nutrients, which are essential for the growth of *Listeria* species. Sodium chloride maintains the osmotic equilibrium of the medium. Due to the fermentation of L-rhamnose, D-xylose and/or methyl α -D-mannopyranoside (MMP) acid is produced. The pH indicator bromocresol purple turns yellow at acidic pH. Further biochemical determinations can be made with the haemolysis ability of erythrocytes on the Blood Agar. In the CAMP-Test some *Listeria* species shows the ability to enhance the haemolysis of *Staphylococcus aureus*.

Cultural characteristics after 18-24 hours at 37 °C.

Organisms (ATCC)	Recovery	Rhamnose	Xylose	MMP	β -haemolysis	CAMP-reaction
<i>Listeria monocytogenes</i> (19118)	+++	+	-	+	+	+
<i>Listeria seeligeri</i> (35967)	+++	-	+	-	+	+
<i>Listeria innocua</i> (33090)	+++	variable	-	+	-	-
<i>Listeria ivanovii</i> (19119)	+++	-	+	-	+	-
<i>Listeria welshimeri</i> (35897)	+++	variable	+	+	-	-



References:

1. Untersuchung von Lebensmitteln: Nachweis und Bestimmung von *L. monocytogenes* in Lebensmitteln (L 00.00-22). In: Amtliche Sammlung von Untersuchungsverfahren nach §35 des deutschen Lebensmittel- und Bedarfsgegenständegesetz. Beuth-Verlag Berlin, Köln (1991)
2. Farber J.M. and Peterkin P.I., *L. monocytogenes*, a food-borne pathogen. Microbiol. Rev. 55: 476-511 (1991)
3. Jemmi T., Gobat P.F. and Guyer S., Praktische Erfahrungen mit den Selektivmedien Oxford und Palcam zum Nachweis von *L. monocytogenes* aus kontaminierten Materialien. Mitt. Gebiete Lebensm. Hyg. 81: 559-564 (1990)
4. SO 11290-1:2017, Microbiology of the food chain -- Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. -- Part 1: Detection method
5. ISO 11290-2:2017, Microbiology of the food chain -- Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. -- Part 2: Enumeration method

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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