TM 2148 – L.MONO BLOOD AGAR BASE

INTENDED USE

For the specific isolation and cultivation of *Listeria* species from food and environmental samples.

PRODUCT SUMMARY AND EXPLANATION

L. monocytogenes is a gram positive, facultatively anaerobic rod shaped bacteria. It can grow under refrigerated condition and therefore is a major concern to the food industry. The recovery of *Listeria* is very low from food and environmental samples, hence it requires enrichment and then further isolation. Various selective and differential media have been proposed for the detection of *Listeria* species in particular *L. monocytogenes*.

L.mono Blood Agar Base was developed by Johanson and Kankare for the isolation of *Listeria* species. It uses Tryptone Soya Agar as a base with the addition of lithium chloride as a selective agent. This medium with the addition of 5% w/v sterile defibrinated sheep blood helps in the differentiation of haemolytic and pathogenic *Listeria* species which includes *L. monocytogenes, L. seeligeri* and *L. ivanovii* from non-haemolytic and non-pathogenic species which include *L. innocua, L. grayi* and *L. welshimeri*.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	15.000
Soya peptone	5.000
Sodium chloride	5.000
Lithium chloride	10.000
Agar	15.000

PRINCIPLE

This medium consists of Tryptone, soya peptone which provides nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and other growth requirements. Sodium chloride maintains osmotic balance. Lithium chloride, ceftazidime and Polymyxin B sulphate imparts additional selectivity to the medium.

INSTRUCTION FOR USE

- Dissolve 50.0 grams in 970 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
- Cool to 45-50°C and aseptically add 5% v/v sterile defibrinated sheep blood and rehydrated contents of two vials of each L. mono selective supplement I (TS 227) and L. mono selective supplement II (TS 228). Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.

Appearance of prepared medium : Basal medium: Light amber coloured clear to very slightly opalescent gel. After addition of 5%v/v sterile blood : Cherry red opaque gel forms in Petri plates

pH (at 25°C) : 7.3 ± 0.2

INTERPRETATION

Cultural characteristics observed in aerobic atmosphere with added L.mono selective supplement I (TS 227), L.mono selective supplement II (TS 228)and 5%v/v sterile defibrinated blood, after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Haemolysis	Incubation Temperature	Incubation Period
Listeria monocytogenes	19112	50-100	Good-luxuriant	>=50%	Narrow haemolytic zone	35-37 °C	24 - 48 Hours
Listeria monocytogenes	19117	50-100	Good-luxuriant	>=50%	Narrow haemolytic zone	35-37 °C	24 - 48 Hours
Listeria monocytogenes subsp. serovar 1	19111	50-100	Good-luxuriant	>=50%	Narrow haemolytic zone	35-37 °C	24 - 48 Hours
Listeria ivanovii subsp. ivanovii serovar 5	19119	50-100	Good-luxuriant	>=50%	Wide haemolytic zone	35-37 °C	24 - 48 Hours
Listeria innocua	33090	50-100	Good-luxuriant	>=50%	No haemolysis	35-37 °C	24 - 48 Hours
Enterococcus faecalis	29212	$>=10^4$	Inhibited	0%	-	35-37 °C	24 - 48 Hours
Pseudomonas aeruginosa	27853	50-100	None-poor	0 -10 %	-	35-37 °C	24 - 48 Hours
Proteus mirabilis	25933	50-100	None-poor	0 -10 %	-	35-37 °C	24 - 48 Hours

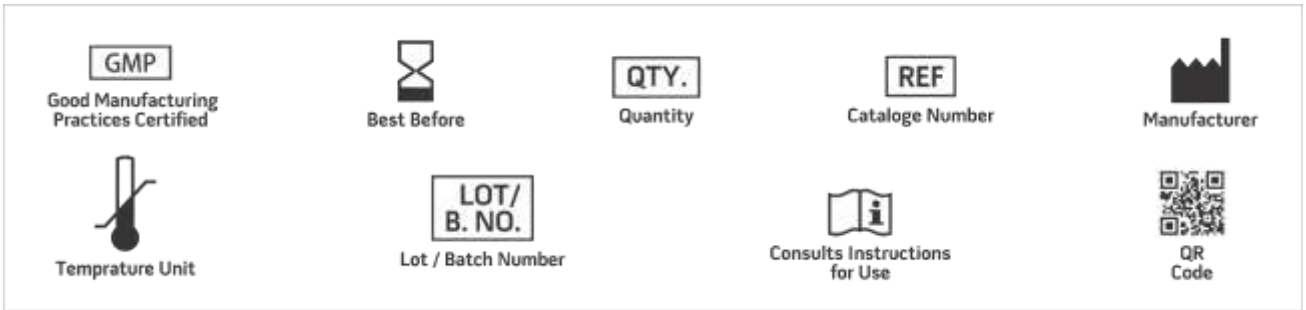
PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 10-25°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
1. Bille, J. (1990) Epidemiology of human listeriosis in Europe with specila reference to the Swiss outbreak. In Miller, A.J., Smit, J.L. and Somtukti, G.A.(ed.) Foodborne Listeriosis. Elsevier, Amsterdam, pp.71-74.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.

3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. Johansson, T., Kankare, M. (1996) Comparison of three selective plating media for the isolation of Listeria monocytogenes from fresh broiler cuts. In SLU (ed.) IUFoST Symposium of food Associated pathogens, 6-8 May, 1996, Uppsala, Sweden. Proceedings of the Symposium of Food associated pathogens, pp.228-229.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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