CM 22,199 - CHROMOGENIC LISTERIA AGAR BASE (ISO 11290-1 & 2:2004, ISO 11133:2014)

INTENDED USE

For selective identification and differentiationofListeria species.

PRODUCT SUMMARY AND EXPLANATION

Listeriaspp. are microaerophilic,gram-positive,asporogenous, non-encapsulated, non-branching, regular, short, motile rods. Motility is most pronounced at 20°C.Chromogenic Listeria Agar Base (ISO 11290-1:2004) is used for selective identification of Listeria monocytogenes. Listeriaspecies grow over a pH range of 4.4 - 9.6, and survive in food products with pH levels outside these parameters.

COMPOSITION

Ingredients	Gms / Ltr
Peptone, Special	18.000
Agar	13.000
Yeast Extract	10.000
Lithium Chloride	10.000
Tryptone	6.000
Sodium chloride	5.000
Disodium Hydrogen phosphate	2.500
Glucose	2.000
Sodium Pyruvate	2.000
Magnesium Glycerophosphate	1.000
Magnesium Sulphate	0.500
X- glucoside	0.050

PRINCIPLE

Peptone, Tryptone and Yeast extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride maintains the osmoticbalance of the medium. Agar is a solidifying agent. Sodium pyruvate is a source of energy and helps in revival of stressedorganisms. Glucose serves as carbon and energy source. Magnesium glycerophosphate and disodium hydrogen phosphate serve as buffering compound. Magnesium sulphate supplies magnesium ion, required for various enzymatic reactions, including DNA replication. Lithium chloride and Chromogenic Listeria Selective Supplement (TS 205) inhibit growth of most gram-positive bacteria, gram negative bacteria, yeasts and moulds. Chromogenic Enrichment Supplement (TS 031) facilitates the detection of phosphatidylinositol phospholipase C (PIPLC), produced by Listeria monocytogenes.

This medium is helpful in specific detection of β-glucosidase activity. Listeria species hydrolyse the chromogenic substrate X-glucoside in the medium giving blue coloured colonies. Since β-glucosidase activity is specific for Listeria species. Other organisms that possess this enzyme are inhibited by the selective agents. Organisms, unable to utilize the chromogenic substrate, give white colonies.

Further, the differential activity is also obtained by lipase C substrate, upon which the specific enzyme for L. monocytogenes acts and gives an opaque white halo around L. monocytogenes colonies.

INSTRUCTIONFOR USE

Dissolve 70.05 gmin970mlofdistilled water.
Gently heat to boilingwithgentle swirling to dissolve the agar completely.
Sterilize by autoclavingat15psi(121°C) for 15 minutes.
Cool to 45 – 50°C.
Rehydrate contents of2vialsofChromogenic Listeria Selective Supplement (TS 205) in 5 ml distilled water and add aseptically to the moltenmedium, along with contents of 2 vials of Chromogenic Enrichment Supplement (TS 031). Mix well and pour intosterilePetri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of powder	:	Light beige colour homogeneous free flowing powder
Appearance of prepared medium	:	Light amber colour, clear to slightly opalescent gel
pH (at 25°C)	:	7.2 ± 0.2

INTERPRETATION

Culturalcharacteristics observed after incubation. Recovery rate is considered 100% for bacteria growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Halo	Recovery	Incubation Temperature	Incubation Period
Listeria monocytogenes	19111	50-100	Good	Blue colour	Positive	>=50%	35 ± 2°C	24 - 48 Hours
Listeria innocua	33090	50-100	Good	Blue colour	Negative	>=50%	35 ± 2°C	24 - 48 Hours
Enterococcus faecalis	19433	≥ 1000	Inhibited	-	-	0%	35 ± 2°C	24 - 48 Hours
Escherichia coli	25922	≥ 1000	Inhibited	-	-	0%	35 ± 2°C	24 - 48 Hours

PACKAGING

Inpacksizeof100gm & 500gm bottles.

STORAGE

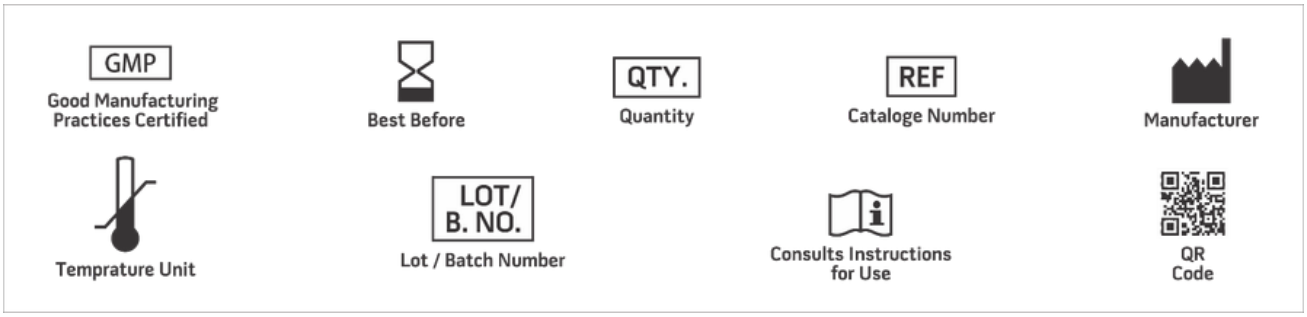
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided 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 powder show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. McLainD. and Lee W.H. FSIS Method for the isolation and identification of Listeria monocytogenes from processed meat and poultry products. Laboratory Communications number 57. (1989)
2. Ottaviani, F., Ottaviani, M. and Agosti, M (1987) Quimper Froid Symposium Proceedings, P6 A.D.R.I.A Quimper (F) 16-18 June ISO 11290-1:2004 Horizontal method for the detection and enumeration of Listeria monocytogenes Part 1: Detection Method.
3. U.S. Food and Drug Administration. Bacteriological analytical manual (online), AOAC International, Gaithersburg, MD. (2003).
4. U.S. Department of Agriculture Food Safety and Inspection Services, Office of Public Health and Science. Isolation and identification of Listeria monocytogenes from red meat, poultry, egg and environmental Samples. In Microbiology Laboratory Guidebook, Washington, D.C. (2002).



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

*For Lab Use Only