L. mono Confirmatory HiVeg™ Agar Base MV1552

L. mono Confirmatory HiVeg Agar Base is recommended for the selective and differential isolation of *Listeria monocytogenes* from clinical and food specimens.

Composition ** :

Ingredients	Grams/Litre
HiVeg special peptone	30.00
Yeast extract	6.00
Sodium chloride	5.00
Lithium chloride	10.00
Disodium hydrogen phosphate anhydrous	2.50
B.C. indicator	8.60
α-Methyl-D-mannoside	3.00
Agar	12.00

Final pH (at 25°C) 7.2 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 38.5 grams in 470 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add sterile rehydrated contents of 1 vial of L. mono Selective Supplement I (FD212) and L. mono Selective Supplement II (FD213) and sterile contents of 1 vial of L. mono Enrichment Supplement II (FD227). Mix well and pour into sterile petri plates.

Warning : Lithium chloride is harmful. Avoid bodily contact and inhalation of vapours. On contact with skin, immediately wash with plenty of water.

Principle and Interpretation :

L. mono Confirmatory HiVeg Agar Base is prepared by replacing Peptone special, with HiVeg special peptone which is free from the BSE/TSE risks. *Listeria monocytogenes* is a gram-positive food borne human pathogen responsible for serious infections in pregnant women that may ultimately result in abortion, stillbirth, birth of a child with neonatal listeriosis and meningitis or primary bacteremia in adults and juveniles. Differentiation of *Listeria monocytogenes* from other *Listeria* species is based on phosphatidylinositol-specific phospholipase C (PIPLC) activity (1,2) and fermentation of alpha-Methyl D-mannoside. Phospholipase C enzyme is an important virulence factor and is specific to only *Listeria monocytogenes* and *Listeria ivanovii*. Phospholipase C enzyme produced by *Listeria monocytogenes* and *Listeria ivanovii* hydrolyses the purified substrate (FD227) added to the medium and results in an opaque halo around the colonies. Further differentiation between *Listeria monocytogenes*, and *Listeria ivanovii* is on the basis of alpha-Methyl D-mannoside utilization. *Listeria monocytogenes* ferments alpha-Methyl D-mannoside giving a yellow halo around the colonies whereas *Listeria ivanovii* does not ferment alpha-Methyl D-mannoside and therefore does not give a yellow halo around the colonies.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV1552 HiVeg special peptone	**M1552** Peptone special

Recommended for	:	Selective and differential isolation of *Listeria monocytogenes* from clinical and food specimens.
Reconstitution	:	77.0 g/l
Quantity on preparation (500g)	:	6.49 L
(100g)	:	1.29 L
pH (25°C)	:	7.2 ± 0.2
Supplement	:	L. mono Selective Supplement I (FD212), L. mono Selective Supplement II (FD213), L. mono Enrichment Supplement II (FD227)
Sterilization	:	121°C / 15 minutes

Storage : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

HiVeg special peptone and yeast extract serve as a nitrogen source and provide essential nutrients required for the growth of *Listeria*. Alpha-Methyl-D-mannoside is the fermentable carbohydrate. Lithium chloride and added selective supplements (FD212 and FD213) inhibit accompanying micro flora and thus enhance the selectivity of the medium for *Listeria* species. Sodium chloride maintains the osmotic equilibrium and disodium hydrogen phosphate buffers the medium.

Quality Control :

Appearance of powder
Pinkish beige coloured, homogeneous free flowing powder.

Gelling
Firm, comparable with 1.2% Agar gel.

Colour and Clarity
Purple coloured, opalescent gel forms in petri plates.

Reaction
Reaction of 7.7% w/v aqueous solution is pH 7.2 ± 0.2 at 25°C.

Continued ...

◉ Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.

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Cultural Response

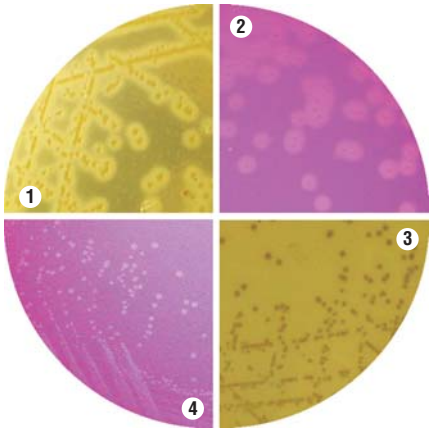
Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours with added supplements, L. mono Selective supplement I (FD212), L. mono Selective Supplement II (FD213) and L. mono Enrichment Supplement II (FD227).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of Colony	PIPLC activity*
Candida albicans (10231)	10^2-10^3	inhibited	0%	-	-
Enterococcus faecalis (29212)	10^2-10^3	inhibited	0%	-	-
Escherichia coli (25922)	10^2-10^3	inhibited	0%	-	-
Listeria innocua (33090)	10^2-10^3	luxuriant	>50%	yellow	-
Listeria grayi (19120)	10^2-10^3	luxuriant	>50%	yellow	-
Listeria ivanovii (19119)	10^2-10^3	luxuriant	>50%	light purple	+
Listeria monocytogenes (19112)	10^2-10^3	luxuriant	>50%	yellow	+
Listeria seeligeri	10^2-10^3	luxuriant	>50%	light purple	-
Listeria welshimeri	10^2-10^3	luxuriant	>50%	yellow	-

Key : PIPLC activity : * = opaque halo around the colony exhibiting phosphatidylinositol - specific phospholipase C activity.

References :

1. Ottaviani F., Ottaviani M., and Agosti M. (1997 a), Industrie Alimentari 36, 1-3.
2. Ottaviani F., Ottaviani M., and Agosti M. (1997 b), Quimper Froid Symposium Proceedings p.6, A.D.R.I.A. Quimper, France, 16-18 June 1997.



MV1552 L. mono Confirmatory HiVeg Agar Base

1. *Listeria monocytogenes*
2. *Listeria ivanovii*
3. *Listeria innocua*
4. *Listeria seeligeri*