

**Leifson HiVeg™ Agar****MV1380**

Leifson HiVeg Agar is recommended for isolation of *Salmonella* and *Shigella* species.

**Composition \*\* :**

Ingredients	Grams/Litre
HiVeg extract No. 1	6.50
HiVeg peptone No. 1	5.00
Lactose	10.00
Sodium thiosulphate	5.40
Ferric ammonium citrate	1.00
Synthetic detergent No. III	1.50
Neutral red	0.02
Sodium citrate	6.00
Agar	12.00

Final pH (at 25°C) 7.5 ± 0.2

\*\* Formula adjusted, standardized to suit performance parameters.

**Directions :**

Suspend 47.42 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT. Excessive heating is detrimental.

**Principle and Interpretation :**

Leifson HiVeg Agar is prepared by completely replacing animal based peptone by vegetable peptones which makes the medium free of BSE/TSE risks. This media is the modification of Leifson Agar which is recommended for isolation of *Salmonella* and *Shigella* species (1). HiVeg extract No.1 and HiVeg peptone No.1 provide essential growth nutrients. Synthetic detergent No. III inhibits all gram positive bacteria. Lactose is added to the medium to allow differentiation of lactose fermenting bacteria such as *Escherichia coli* from non-lactose-fermenting species such as *Salmonella* and *Shigella* species. Lactose fermenting strains grow as red to pink colonies because of absorption of neutral red indicator. Non fermenting species grow as colourless colonies with black centers due to production of hydrogen sulphide (H<sub>2</sub>S) against *Shigella* which does not produce hydrogen sulphide (H<sub>2</sub>S) (2).

**Quality Control :****Appearance of powder**

Light pink coloured, homogeneous, free flowing powder.

**Gelling**

Firm, comparable with 1.2% Agar gel.

**Colour and Clarity**

Reddish orange coloured, clear to very slightly opalescent gel forms in petri plates.

**Reaction**

Reaction of 4.74% w/v aqueous solution is pH 7.5 ± 0.2 at 25°C.

**Product Profile :**

Vegetable based (Code MV)©	Animal based (Code M)
<b>MV1380</b> HiVeg extract No.1 HiVeg peptone No.1 Synthetic detergent No.III	<b>M1380</b> Meat extract Meat peptone Sodium deoxycholate
<b>Recommended for</b>	: Isolation of <i>Salmonella</i> and <i>Shigella</i> species.
<b>Reconstitution</b>	: 47.42 g/l
<b>Quantity on preparation (500g)</b>	: 10.54 L
<b>pH (25°C)</b>	: 7.5 ± 0.2
<b>Supplement</b>	: None
<b>Sterilization</b>	: Boiling (DO NOT AUTOCLAVE)
<b>Storage</b>	: Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

**Cultural Response**

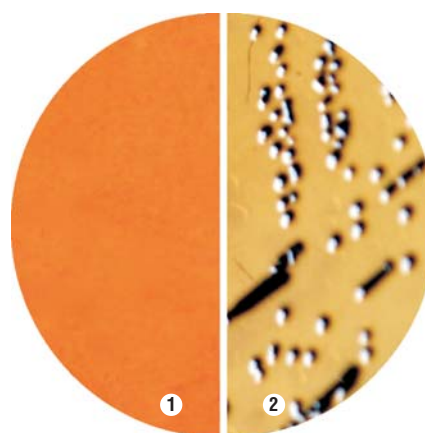
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of Colony	H <sub>2</sub> S
<i>Enterococcus faecalis</i> (29212)	10 <sup>2</sup> -10 <sup>3</sup>	inhibited	0%	-	-
<i>Escherichia coli</i> (25922)	10 <sup>2</sup> -10 <sup>3</sup>	poor	<10%	pink	-
<i>Klebsiella pneumoniae</i> (13883)	10 <sup>2</sup> -10 <sup>3</sup>	good	>30%	pink mucoid	-
<i>Salmonella</i> serotype Enteritidis (13076)	10 <sup>2</sup> -10 <sup>3</sup>	luxuriant	>50%	colourless	+
<i>Salmonella</i> serotype Typhimurium (14028)	10 <sup>2</sup> -10 <sup>3</sup>	luxuriant	>50%	colourless	+
<i>Shigella flexneri</i> (12022)	10 <sup>2</sup> -10 <sup>3</sup>	good	>30%	colourless	-
<i>Staphylococcus aureus</i> (25923)	10 <sup>2</sup> -10 <sup>3</sup>	inhibited	0%	-	-

Key : + = positive, black centered colony

**References :**

1. Leifson, E., 1935, J. Pathol. Bacteriol., 40-581.
2. Macfaddin J. 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.1. Williams and Wilkins, Baltimore.



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1. Control
2. *Salmonella* serotype Typhimurium