

Tomato Juice HiVeg™ Agar / Special

MV048 / MV879

Tomato Juice HiVeg Agar / Special is used for the cultivation and enumeration of *Lactobacilli*.

Composition ** :

Ingredients	MV048	MV879
	Grams/Litre	Grams/Litre
Tomato juice (400 ml)	20.00	20.00
HiVeg hydrolysate	10.00	—
HiVeg peptone	—	10.00
HiVeg hydrolysate No. 3	10.00	10.00
Agar	11.00	20.00

Final pH (at 25°C) 6.1 ± 0.2 5.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 51 grams of MV048 or 60 grams of MV879 in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle and Interpretation :

These media are prepared by using vegetable peptones in place of animal based peptones which makes the media free of BSE/TSE risks. Mickle and Breed (1) first described the use of tomato juice in the culture media for *Lactobacilli*. These media are the modifications of media developed by Kulp (2) who observed the improved growth of *Lactobacillus acidophilus* in the media consisting of tomato juice. Kulp and White (3) observed that high counts of *Lactobacilli* were seen on using Tomato Juice. Tomato Juice Agar media are used for the cultivation and enumeration of *Lactobacilli*. Tomato Juice HiVeg Agar/Special which are modifications of the conventional media serve the same purpose.

The number of *Lactobacilli* in saliva is an index of predisposition to dental caries as described by Jay (4). Tomato Juice HiVeg Agar, Special like the conventional medium is recommended for the direct plate count of the *Lactobacilli* in saliva and for other acidophilic organisms. The low pH of medium inhibits many commensal bacteria and encourages the growth of *Lactobacilli*.

Tomato juice provides an acidic environment, besides being a source of carbon, proteins and nutrients. HiVeg hydrolysate No.3 provides lactose, as an energy source. HiVeg peptone and HiVeg hydrolysate provides nitrogenous, carbonaceous compounds, trace elements and other essential growth nutrients.

Quality Control :

Appearance of powder

Yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Product Profile :

Vegetable based (Code MV) ©	Animal based (Code M)
MV048/MV879 HiVeg peptone HiVeg hydrolysate HiVeg hydrolysate No. 3	M048/M879 Peptic digest of animal tissue Casein enzymic hydrolysate Peptonized milk

Recommended for : Cultivation and enumeration of *Lactobacilli*.

Reconstitution : (MV048) : 51.0 g/l

: (MV879) : 60.0 g/l

Quantity on preparation (500g) : (MV048) : 9.80 L

: (MV879) : 8.33 L

pH (25°C) : (MV048) : 6.1 ± 0.2

: (MV879) : 5.0 ± 0.2

Supplement : None

Sterilization : 121°C / 15 minutes.

Storage : Dry Medium and Prepared Medium 2 - 8°C.

Gelling

Firm, comparable with 1.1% Agar gel of MV048 or 2.0% Agar gel of MV879.

Colour and Clarity

Medium amber coloured, slightly opalescent gel forms in petri plates.

Reaction

Reaction of 5.1% w/v aqueous solution of MV048 is pH 6.1 ± 0.2 at 25°C. Reaction of 6.0% w/v aqueous solution of MV879 is pH 5.0 ± 0.2 at 25°C.

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth on MV048	Growth on MV879
<i>Lactobacillus acidophilus</i> (4356)	10 ² -10 ³	luxuriant	luxuriant
<i>Lactobacillus casei</i> (9595)	10 ² -10 ³	luxuriant	luxuriant
<i>Lactobacillus leichmannii</i> (4797)	10 ² -10 ³	luxuriant	luxuriant
<i>Staphylococcus aureus</i> (25923)	10 ² -10 ³	luxuriant	inhibited

References :

- Mickle and Breed, 1925, Technical Bulletin 110, NY State Agricultural Exp. Station.
- Kulp J.W.L., 1927, Science, 66:512.
- Kulp J.W.L. and White V., 1932, Science, 76:17.
- Jay P., 1938, Bacteriology and Immunology of Dental Caries in Dental Science and Dental Art, Lea and Febiger, Philadelphia.