

## Tomato Juice HiVeg™ Medium Base

MV829

Tomato Juice HiVeg Medium Base is recommended for isolation and identification of *Lactobacilli* encountered in wine.

**Composition \*\* :**

Ingredients	Grams/Litre
HiVeg special peptone	5.0
Yeast extract	5.0
Dextrose	10.0
Monopotassium phosphate	0.5
Potassium chloride	0.125
Calcium chloride	0.125
Sodium chloride	0.125
Magnesium sulphate	0.125
Manganese sulphate	0.03
Bromo cresol green	0.03
Tomato juice solids, from	150.0
Agar	15.0

Final pH (at 25°C) 5.0 ± 0.2

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

**Directions :**

Suspend 20 grams in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Aseptically add 1 vial of Lactobacilli Supplement (FD098) or Sorbic acid (1.2g/l). Mix well before pouring.

**Principle and Interpretation :**

Tomato Juice HiVeg Medium Base is prepared by using vegetable peptones in place of animal based peptones which are free from BSE/TSE risks. Tomato Juice HiVeg Medium Base is the modification of the medium devised by Yoshizumi (1), which is widely used for isolation of slow growing *Lactobacilli* from wines which take part in the malolactic fermentation and spoilage. Kulp (3) observed the improved growth of *Lactobacillus* in the medium containing tomato juice. Tomato juice acts as a source of carbon, protein and nutrients. HiVeg special peptone and yeast extract provide nitrogenous compounds and amino acids which stimulate the growth of spoilage strains (1). Low pH of the medium encourages growth of *Lactobacilli* while inhibiting the growth of accompanying bacteria. Bromo cresol green acts as an inhibitory dye. Cycloheximide and sorbic acid act as fungistats inhibiting the growth of yeasts (2). Monopotassium phosphate buffers the medium well. Magnesium sulphate, manganese sulphate and potassium chloride provide inorganic ions. Sodium chloride maintains ionic balance.

**Product Profile :**

Vegetable based (Code MV)©	Animal based (Code M)
<b>MV829</b> HiVeg special peptone	<b>M829</b> Peptone special
<b>Recommended for</b>	: Isolation and identification of <i>Lactobacilli</i> encountered in wine.
<b>Reconstitution</b>	: 40.0 g/l
<b>Quantity on preparation (500g)</b>	: 12.5 L
<b>pH (25°C)</b>	: 5.0 ± 0.2
<b>Supplement</b>	: Lactobacilli Supplement (FD098) or Sorbic acid
<b>Sterilization</b>	: 121°C / 15 minutes
<b>Storage</b>	: Dry Medium and Prepared Medium 2 - 8°C.

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

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

**Gelling**

Firm, comparable with 1.5% Agar gel.

**Colour and Clarity**

Bluish green, clear to slightly opalescent gel forms in petri plates

**Reaction**

Reaction of 4.0% w/v aqueous solution is pH 5.0 ± 0.2 at 25°C.

**Cultural Response**

Cultural characteristics observed on addition of one vial of Lactobacilli Supplement, (FD098)/ Sorbic acid on incubation at 35-37°C for 18 - 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery
<i>Lactobacillus bulgaricus</i> (11842)	10 <sup>2</sup> × 10 <sup>3</sup>	luxuriant	> 70%
<i>Lactobacillus casei</i> (7469)	10 <sup>2</sup> × 10 <sup>3</sup>	luxuriant	> 70%

**References :**

1. Yoshizumi, H. 1975. A malolactic bacterium and its growth factor. In: J.G. Carr, C.V Cutting and G.C. Whiting (eds.). Lactic Acid Bacteria and Food. Academic Press London, UK, pp. 87-102.
2. Chalfan, r. et al. 1977. J. Food Sci. Vol. 42. p: 939.
3. Kulp J.W.L., 1927, Science, 66:512.