



## Welshimer's Broth, Modified

M1740

Welshimer's Broth, Modified is a chemically defined minimal medium for the growth of *Listeria monocytogenes* .

### Composition\*\*

Ingredients	Gms / Litre
Monopotassium phosphate	6.560
Disodium phosphate. 7H <sub>2</sub> O	30.960
Magnesium sulphate. 7H <sub>2</sub> O	0.410
Ferric citrate	0.088
Glucose	10.000
L - Leucine	0.100
L - Isoleucine	0.100
L - Valine	0.100
L - Methionine	0.100
L - Arginine	0.100
L - Cysteine	0.100
L - Glutamine	0.600
Riboflavin	0.0005
Thiamine	0.001
Biotin	0.0005
Thioctic acid	0.000005

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

### Directions

Suspend 34.44 grams (equivalent weight of dehydrated medium per litre) in 1000 ml distilled water. Heat, if necessary, to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Principle And Interpretation

Welshimer's Broth, Modified is an improved medium developed by Premaratne et al, which supports good growth of *Listeria monocytogenes* (1). This medium is a modification of Welshimer's Broth (2), having additional amino acids L - Histidine and L - Tryptophan.

*Listeria monocytogenes* is widespread in the environment and continues to present a potential health risk in raw, minimally processed, and some fermented foods. This chemically defined medium allows the growth of *Listeria monocytogenes* in widely diverse environment. All the amino acids and vitamins act as the growth factors required by *Listeria monocytogenes*. Ferric citrate stimulates the growth whereas the potassium and sodium phosphates provide buffering system. Glucose and glutamine are the primary sources of carbon and nitrogen.

### Quality Control

#### Appearance

White to cream homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Light amber clear having white precipitate.

#### Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

#### Cultural Response

Organism	Inoculum (CFU)	Growth
----------	-------------------	--------

**Cultural Response**

<i>Listeria innocua</i> ATCC 33090	50-100	luxuriant
<i>Listeria monocytogenes</i> ATCC 19111	50-100	luxuriant
<i>Listeria monocytogenes</i> ATCC 19112	50-100	luxuriant
<i>Listeria monocytogenes</i> ATCC 19117	50-100	luxuriant
<i>Listeria monocytogenes</i> ATCC 19118	50-100	luxuriant
<i>Listeria ivanovii</i> ATCC 19119	50-100	luxuriant

**Storage and Shelf Life**

Store below 30°C and the prepared medium at 2 - 8°C. Use before expiry date on the label.

**Reference**

- 1.Premaratne, R. J., W. Lin, and E. A. Johnson. 1991. Development of an improved chemical defined minimal medium for *Listeria monocytogenes*. Appl. Environ. Microbiol. 57: 3046-3048.
- 2.Welshimer,H.J. 1963. Vitamin requirements of *Listeria monocytogenes* J. Bacteriol. 85: 1156-1159.

Revision : 02 / 2015

**Disclaimer :**

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory,diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.