

# YM BROTH (7363)

## Intended Use

YM Broth is used for the cultivation of fungi.

## Product Summary and Explanation

YM Broth is prepared according to the formulation published by Wickerham.<sup>1-3</sup> Wickerham suggested that YM Broth, acidified to pH 3.0 – 4.0, be used as an enrichment medium for yeasts from populations also containing bacteria and molds. To favor isolation of fermentative species, add a layer of sterile paraffin oil 1 cm deep on the surface of the inoculated broth. Cultures should be incubated until growth appears, and then streaked onto YM Agar to obtain isolated yeast colonies. To isolate fermentative and oxidative strains, place acidified inoculated YM Broth on a rotary shaker for 1 to 2 days. This favors yeast recovery while preventing sporulation of molds.

Media selectivity may be enhanced through acidification or addition of selective agents. YM Broth may be acidified prior to sterilization.

## Principles of the Procedure

Enzymatic Digest of Gelatin is a nitrogen and amino acid source in YM Broth. Yeast Extract provides trace elements and vitamins. Malt Extract is a source of carbon, protein, and nutrients. Dextrose is an energy source.

## Formula / Liter

|                                   |      |
|-----------------------------------|------|
| Enzymatic Digest of Gelatin ..... | 5 g  |
| Malt Extract .....                | 3 g  |
| Dextrose.....                     | 10 g |
| Yeast Extract.....                | 3 g  |

Final pH: 6.2 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

## Precautions

1. For Laboratory Use.
2. HARMFUL. Harmful if swallowed. Irritating to eyes, respiratory system, and skin.

## Directions

1. Dissolve 21 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

## Optional

If desired, acidify YM Broth to pH 3.0 - 4.0 by adding sterile 10% HCl, Tartaric Acid, or 10% Citric Acid. Selective agents, e.g., penicillin (20 units per mL final concentration) or streptomycin (40 micrograms per mL-final concentration) may be added to the medium after sterilization using aseptic technique.

## Quality Control Specifications

**Dehydrated Appearance:** Powder is homogeneous, free-flowing, and beige.

**Prepared Appearance:** Prepared medium is clear to trace hazy and light yellow to gold.

**Expected Cultural Response:** Cultural response, after inoculation in YM Broth at 25 - 30°C for 2 - 7 days incubation.

| <b>Microorganism</b>                         | <b>Response</b> |
|--|-----------------|
| <i>Aspergillus niger</i> ATCC® 16404         | growth          |
| <i>Candida albicans</i> ATCC® 10231          | growth          |
| <i>Microsporum canis</i> ATCC® 36299         | growth          |
| <i>Penicillium roquefortii</i> ATCC® 10110   | growth          |
| <i>Saccharomyces cerevisiae</i> ATCC® 9763   | growth          |
| <i>Trichophyton mentagrophtes</i> ATCC® 9533 | growth          |

The organisms listed are the minimum that should be used for quality control testing.

### **Test Procedure**

1. Inoculate YM Broth with appropriate samples to evaluate the presence of yeasts, molds, or aciduric microorganisms.
2. Incubate at 30 ± 2°C for 18 - 72 hours.

### **Results**

Examine tubes for growth. Record YM Broth results as growth or no growth.

### **Storage**

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

### **Expiration**

Refer to expiration date stamped on container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

### **Limitation of the Procedure**

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

### **Packaging**

|                 |                 |              |              |
|-----------------|-----------------|--------------|--------------|
| <b>YM Broth</b> | <b>Code No.</b> | <b>7363A</b> | <b>500 g</b> |
|                 |                 | <b>7363B</b> | <b>2 kg</b>  |
|                 |                 | <b>7363C</b> | <b>10 kg</b> |

### **References**

1. **1951.** U. S. Dept. Agricult. Tech. Bull. No. 1029.
2. **1939.** J. Tropical Med. Hyg. **42**:176.
3. **Jong, S. C., and M. J. Edwards.** 1991. American Type Culture Collection Catalog of filamentous fungi. 18<sup>th</sup> ed. American Type Collection, Rockville, MD.

### **Technical Information**

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (410)780-5120 or fax us at (410)780-5470.