# Malt Extract HiVeg™ Agar Base, Modified

MV995

## Intended Use:

Recommended for isolation, detection and enumeration of yeasts and moulds.

## Composition**

| Ingredients | Gms / Litre |
|---|---|
| HiVeg™ peptone | 0.780 |
| Maltose | 12.750 |
| Dextrin | 2.750 |
| Agar | 15.000 |
| Final pH ( at 25°C) | 4.7±0.2 |

**Formula adjusted, standardized to suit performance parameters

## Directions

Suspend 31.28 grams in 1000 ml purified/distilled water. Add 2.35 gm glycerol. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Avoid overheating. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

## Principle And Interpretation

Malt Extract medium is recommended for the isolation, detection and enumeration of yeasts and moulds. Malt Extract Agar has been used for many years for the detection of yeast and moulds in a wide variety of materials including dairy products and foods (1). The medium is also suitable for maintaining stock cultures of fungi. Reddish (2) described a medium prepared from malt extract which was an acceptable substitute for wort. Following the formula of Reddish, Thom and Church (3) used Malt extract as a base from which they prepared the complete media. Malt Extract HiVeg™ Agar Base, Modified is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks. HiVeg™ peptone provide essential growth nutrients for the growth of fungi. Maltose and dextrin are the suitable carbohydrates for the growth of fungi. The low pH inhibits bacterial growth (4).

## Type of specimen

Food samples

## Specimen Collection and Handling:

Streak the specimen as soon as possible after it is received in the laboratory. Consult appropriate references for information regarding the processing and inoculation of specimens (5). For isolation of fungi from potentially contaminated specimen, a selective medium should be inoculated along with the non-selective medium. Incubate the plates at 25 to 30°C with increased humidity for upto 7 days. Examine the plates for fungal colonies and for confirmation, perform biochemical test and serological diagnosis. After use, contaminated materials must be sterilized by autoclaving before discarding.

## Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

## Limitations

1. Examine the plates for fungal colonies and for confirmation, perform biochemical test and serological diagnosis.

## Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

## Quality Control

**Appearance**

Cream to yellow homogeneous free flowing powder

**Gelling**

Firm, comparable with 1.5% Agar gel

**Colour and Clarity of prepared medium**

Yellow coloured clear to slightly opalescent gel forms in Petri plates

**Reaction**

Reaction of 3.12% w/v aqueous solution at 25°C. pH : 4.7±0.2

**pH**

4.50-4.90

**Cultural Response**

Cultural characteristics observed after an incubation at 25 - 30°C for 40 - 48 hours

| Organism | Inoculum (CFU) | Growth | Recovery |
|---|---|---|---|
| *#Aspergillus brasiliensis* ATCC 16404 (00053*) | 50-100 | good-luxuriant | |
| *Candida albicans* ATCC 10231 (00054*) | 50-100 | good-luxuriant | >=70% |
| *Saccharomyces cerevisiae* ATCC 9763 (00058*) | 50-100 | good-luxuriant | >=70% |

Key: (*) Corresponding WDCM numbers (#)- Formerly known as *Aspergillus niger*

## Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).

## Reference

1. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
2. Reddish, 1919, Abst. Bact., 3:6.
3. Thom and Church, 1926, The Aspergilli.
4. Lennett, Balows, Hausler and Shadomy (Eds.), 1985, Manual of Clinical Microbiology, 4th ed., ASM,Washington,D.C.
5. Ajello L., Georg L. K., Kaplan W. and Kaufman L., 1963, CDC Laboratory Manual for Medical Mycology,Washington, D. C.
6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
7. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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