

## 70146 Malt Extract Broth

Malt Extract Broth is recommended for the detection, isolation and enumeration of fungi, particularly yeasts and moulds, in various materials and for the cultivation of the strains for microbiological vitamin assays.

### Composition:

Ingredients	Grams/Litre
Malt extract	17.0
Mycological peptone	3.0
Final pH 5.4+/-0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

### Directions:

Suspend 20 g in 1 litre of distilled water. Mix well, distribute into final containers and sterilize by autoclaving at 115°C for 10 minutes. For mycological count, it is recommended to adjust the pH more acidic with addition of 10% lactic acid, 5 % tartaric acid. Further antibiotics may be added to the acidified agar. Alternatively, only antibiotics may be applied to the molten agar. Add additives immediately before pouring into the sterile petri plates (45-50°C) in order to suppress the bacterial growth. For fungi a pH value of 3.5 is recommended, but it depends on the microorganisms.

### Principle and Interpretation:

Malt extract contains polysaccharides which are used as an energy source. It makes the medium acidic as well. Mycological peptone serves as a nitrogen source.

Lactic acid, tartaric acid or antibiotics suppress bacterial growth and make the medium more selective.

Reiss recommends a modified malt extract medium for the selective cultivation of *Aspergillus flavus*. According to Rapp, addition of certain indicator dyes to malt extract agar allows differentiation of yeast and bacterial colonies.

Cultural characteristics after 48-72 hours at 25-30°C.

Organisms (ATCC)	Growth
<i>Aspergillus niger</i> (16404)	+++
<i>Candida albicans</i> (10231)	+++
<i>Saccharomyces cerevisiae</i> (9763)	+++

### References:

1. S. Dutton, C.W. Penn, Biological attributes of colony-type variants of *Candida albicans*, J. Gen. Microbiol. 135, 3363 (1989)
2. T. Börjesson, et al., Volatile metabolites and other indicators of *P. aurantiogriseum* - growth on different substrates, Appl. Environ. Microbiol. 56, 3705 (1990)
3. Rapp M., Indikatorzusätze zur Keimidentifizierung auf Würze- und Malzextraktagar, Milchwiss., 29, 341 (1974)
4. Reiss J., Ein selektives Kulturmedium für den Nachweis von *Aspergillus flavus* in verschimmeltem Brot, Zbl. Bakt. Hyg. I. Abt. Orig. A 220, 564
5. Galloway L.D. and Burgess R., Applied Mycology and Bacteriology, 3<sup>rd</sup> ed., Leonard Hill, London, pg. 54 and 57 (1952)
6. Harrigan W.F. and Mc Cane MB., Laboratory Methods in Food and Dairy Microbiology, Academic Press, N.Y (1976)

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

