

## 17121 Aspergillus Differentiation Agar, Base (AFPA , Base)

For detection of aflatoxin producing *Aspergillus* species from food samples.

### Composition:

| Ingredients                    | Grams/Litre |
|--------------------------------|-------------|
| Peptic digest of animal tissue | 10.0        |
| Yeast extract                  | 20.0        |
| Ferric ammonium citrate        | 0.5         |
| Dichloran                      | 0.002       |
| Agar                           | 15.0        |
| Final pH 6.3 +/- 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 22.75 g in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 121°C for 15 minutes. Cool around 50°C and aseptically add sterile rehydrated contents of 1 vial of Chloramphenicol Selective Supplement (Cat. No. 29231). Mix well.

### Principle and Interpretation:

This medium is based on the formulation of Pitt et al [1]. It is a modification of the medium formulated by Bothast and Fennel [2].

Mixture of Chloramphenicol and Dichloran restricts spreading of moulds, inhibits bacterial growth and helps in identification of fungi. Mixture of peptic digest of animal tissue and yeast extract improves growth rate of fungi particularly aflatoxin producing *Aspergillus* species like *Aspergillus parasiticus*. *Aspergillus flavus* develop intense yellow orange colour at the base of the colonies which is a differential characteristic for these species. Assante et al [3] showed that the orange yellow colouration was due to reaction of ferric ions from ferric citrate with aspergillic acid molecules forming a coloured complex. The number of colonies are reported per gram of food.

Cultural Characteristics after 48 – 72 hours at 30°C

| Organism (ATCC)                        | Growth | Colony characteristics  |
|--|--------|---|
| <i>Aspergillus flavus</i> (22547)      | +++    | yellowish orange colour on the reverse side of colonies                       |
| <i>Aspergillus parasiticus</i> (28285) | +++    | yellowish orange colour on the reverse side of colonies                       |
| <i>Aspergillus niger</i> (9642)        | +++    | pale yellow colour on the reverse side and black heads on the top of colonies |

### References:

1. J. Pitt, D. Hocking, D.R. Glenn, J Appl Bact, 54, 109 (1983)
2. R.I. Bothast, D.I. Fennel, Mycologia, 66, 365 (1974)
3. G. Assante et al, J Ag Food Chem, 29, 785 (1981)

### 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.

