Aspergillus Differentiation Medium Base

Intended Use
Aspergillus Differentiation Medium Base is used for detection of aflatoxin producing *Aspergillus* species from food samples.

Summary
Aspergilli are hyaline moulds that commonly cause opportunistic infections in humans. Allergic bronchopulmonary disease is a manifestation of hypersensitivity to fungal spores or products, a common manifestation of *Aspergillus* species (particularly *A. flavus*). Aspergillus Differentiation Medium Base formulated by Pitt *et al.,* is a modification of the medium formulated by Bothast and Fennel. *Aspergillus flavus* develops intense yellow orange colour at the base of the colonies, which is a differential characteristic of this species. This pigmentation helps in differentiating *A. flavus* from other *Aspergillus* species. Assante et al showed that the orange yellow colouration was due to the reaction of ferric ions (from ferric ammonium citrate) with aspergillic acid or neoaspergillic acid forming a coloured complex.

Principle
A mixture of chloramphenicol and dicholoran restricts the spreading of moulds. It also inhibits bacterial growth and helps in the identification of fungi. Peptic digest of animal tissue and yeast extract serve as sources of nitrogen, amino acids and B complex vitamins. Ferric ammonium citrate aids in the production of yellow orange pigment characteristic of *A. flavus. A. parasiticus*, associated with aspergillosis also produces a yellow orange pigment similar to the one produced by *A. flavus*.

Formula*
Ingredients	**g/L**
Peptic digest of Animal Tissue	10.0
Yeast Extract	20.0
Ferric Ammonium Citrate	0.5
Dichloran	0.002
Agar	15.0
Final pH (at 25°C)	6.3 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen
Food and dairy samples

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 22.75 g of the powder in 500 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. Cool to 45°C-50°C and aseptically add sterile rehydrated contents of 1 vial of Chloramphenicol selective supplement (204031030005).
5. Mix well and pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Beige to yellow coloured, homogeneous, coarse free flowing powder.
Prepared Appearance: Medium amber coloured, clear to slightly opalescent gel forms in petridishes.
Cultural Response: Cultural Response was observed with added 1 vial of Chloramphenicol Selective Supplement after an incubation at 25°C-30°C for 48-72 hours.

Organism (ATCC)	Growth	Colour of Colony
Aspergillus brasiliensis WLRI 034(120) (16404)	Good	Pale yellow colour on the reverse side of colonies with black heads on the top of colonies
Aspergillus flavus (22547)	Good	Yellowish orange colour on the reverse side of colonies
Aspergillus parasiticus (28285)	Good	Yellowish orange colour on the reverse side of colonies

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Koneman E. W., (Ed.), Mycology, Colour Atlas and Textbook of Diagnostic Microbiology, 4th Ed, 1992, J. B. Lippincott Company.
2. Pitt J., Hocking D., and Glenn D. R., 1983
3. Bothast and Fennel, 1974, Mycologia. 66:365.
4. Haley and Callaway, 1978, Laboratory methods in medical mycology, 4th Ed., Center for Disease Control, Atlanta, Ga.
5. McGinnis, 1980, Laboratory Handbook of Medical Mycology, Academic Press, New York, N.Y.
6. Assante G. et al., 1981, J. Ag. Food Chem., 29:785
7. Murray P. R., Baron E. J., Jorgensen J. H., Pfaller M. A., Yolken R. H., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.
8. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201010330500	Dehydrated Culture Media	500 g