TM 667 – ASPERGILLUS DIFFERENTIATION MEDIUM BASE

INTENDED USE
Detection of aflatoxin producing *Aspergillus* species from foods.

PRODUCT SUMMARY AND EXPLANATION
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 coloration was due to the reaction of ferric ions (from ferric ammonium citrate) with aspergillic acid or neoaspergillic acid forming a colored complex.

COMPOSITION

Ingredients	Gms / Ltr
Peptic digest of animal tissue	10.000
Yeast extract	20.000
Ferric ammonium citrate	0.500
Dichloran	0.002
Agar	15.000

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*.

INSTRUCTION FOR USE
- Dissolve 22.75 grams in 500 ml distilled water. Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C and aseptically add sterile rehydrated contents of 1 vial of Chloramphenicol Selective Supplement.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS
Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Medium amber coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 6.3±0.2

INTERPRETATION
Cultural characteristics observed after incubation with added 1 vial of Chloramphenicol Selective Supplement.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period

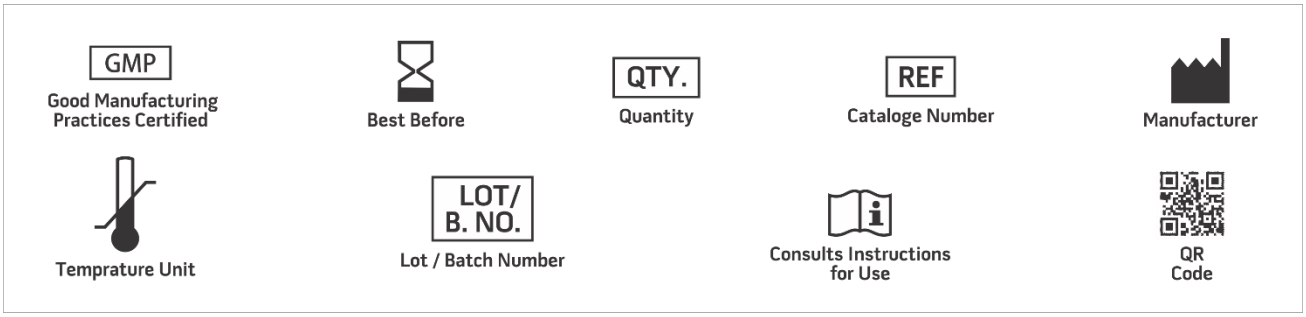
Aspergillus brasilensis	9642	50-100	Good-luxuriant	>=50%	Pale yellow colour on the reverse side of colonies with black heads on the top of the colonies	25-30°C	48-72 Hours
Aspergillus flavus	22547	50-100	Good-luxuriant	>=50%	Yellowish orange colour on the reverse side of colonies	25-30°C	48-72 Hours
Aspergillus parasiticus	28285	50-100	Good-luxuriant	>=50%	Yellowish orange colour on the reverse side of colonies	25-30°C	48-72 Hours

PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
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. 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.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
Revision: 08 Nov., 2019