

Mucormycosis Detection Kit

K144

Intended Use:

Recommended for sample collection, transportation, detection of suspected *Mucor* species (after sporulation appear as black fungi) and *Candida* species (appears white in colour) causing Mucormycosis.

Kit contents :

	2 kits Sufficient for 2 samples	10 kits Sufficient for 10 samples
1. MP5476 : Mucormycosis Selective Agar Plate	2 plates	10 plates
2. MP5477 : Candida Selective Agar Plate	2 plates	10 plates
3. MS5478 ; Sterile HiFungal Transport medium w/swab (Sterile flocked nylon swab for specimen collection.	2 nos.	10 nos.

Refer individual technical data sheets for more details.

Advantages :

- 1.A complete one stop solution for the collection and transport of sample and selective isolation of *Mucor* species (black fungus and *Candida* species (white fungus).
2. MS5478 : Collection and transport of sample of fungi.
3. MP5476 : Selective isolation of *Mucor* fungi inhibiting bacterial contamination and yeasts.
4. MS5477 : Selective isolation of *Candida* species inhibiting bacterial contamination and mycelial fungi.
- 5..Lockable plates to ensure clinician safety.

Directions

- 1.Cut open the pouch containing the swab for specimen collection
- 2.Collect the specimen using standard techniques.
- 3.After sample collection, insert the swab into the HiFungal Transport medium and break the swab at the breakpoint.
- 4.Tighten the cap firmly.
- 5.The specimen will be preserved during transportation and also the viability of the organisms will be maintained. After the transportation, the specimen should be inoculated in respective medium as soon as possible.
6. MP5476- Mucormycosis Selective Agar Plate - selective cultivation of *Mucor* species (after sporulation appear as black fungi
7. MP5477- Candida Selective Agar Plate -selective isolation of *Candida* species (appears as white fungi)
- 8.For cultivation of other fungi it may be cultivated onto any general fungal medium as Sabouraud Dextrose Agar (GM063/MP063) or Potato Dextrose Agar (M096/ MP096) etc.

Principle And Interpretation

Mucormycosis (previously called zygomycosis) is a serious but rare fungal infection caused by a group of molds called mucormycetes (1). In most cases it is due to an invasion of the genera *Rhizopus* and *Mucor*, common bread molds (2). Effective recovery of microorganisms and its identification is dependent on a number of factors such as collection and transportation to the laboratory under conditions which allow maintenance of viability. This medium gives improved recovery of fungal cultures including yeasts and moulds. The recovery of mycelial fungi including *Aspergillus*, *Mucor*, *Rhizopus* is also well supported. The fungal cultures can be safely transported. Antibacterial components have been added to the transport medium to avoid bacterial contamination.

Mucormycosis selective Agar Plate is specifically designed to selectively promote the growth of *Mucor* species and inhibit the contaminating bacterial flora and yeast.

Candida Selective Agar Plate is specifically designed to selectively promote the growth of *Candida* species and inhibit the contaminating bacterial flora and mycelial fungi.

Type of specimen

Clinical samples : eye lesion, nasal swabs, other sites of infection

Specimen Collection and Handling:

HiFungal Transport medium w/swab (MS5478) which contains the transport medium along with the swab is used for specimen collection from the eye, nose, nasopharynx, other sites of infection and transported to the lab. can be used. (Refer directions).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the kit. 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 specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Microscopy, morphological tests, staining tests and further biochemical tests are recommended for confirmation.

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

MP5476 - Mucormycosis Selective Agar Plate
MP5477 - Candida Selective Agar Plate
MS5478 - Sterile HiFungal™ Transport Medium with sterile flocked nylon swab.

Sterility test

Passes release criteria

Cultural response

Viability of following organisms was established for a period of 48 hours. For selective cultivation of Mucoromyces fungi, the swab should be swabbed onto Mucoromyces Selective Agar Plate (MP5476) and for selective isolation of white fungi, *Candida* species, the swab must be swabbed onto Candida Selective Agar Plate (MP5477). For cultivation of fungi it may be cultivated onto any general fungal medium as Sabouraud Dextrose Agar, Potato Dextrose Agar etc. The plates are then incubated at 25-30°C for 24-48 hours. Overincubation should be avoided.

Cultural Response

Organism	Growth on Mucormycosis Selective Agar Plate (MP5476)	Growth on Candida Selective Agar Plate (MP5477)
<i>Mucor racemosus</i> isolate	Luxuriant (Black spores observed)	none-poor
<i>Rhizopus oryzae</i> MTCC 1987	Luxuriant (Black spores observed)	none-poor
# <i>Aspergillus brasiliensis</i> ATCC 16404 (00053*)	none-poor	none-poor
<i>Candida albicans</i> ATCC 10231 (00054*)	none-poor	Luxuriant
<i>Trichophyton rubrum</i> ATCC 28191	none-poor	none-poor
<i>Escherichia coli</i> ATCC 25922 (00013*)	inhibited	inhibited
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	inhibited	inhibited
<i>Pseudomonas aeruginosa</i> ATCC 27853 (00087*)	inhibited	inhibited

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

Storage and Shelf Life

Store between 20-30°C. Use before expiry date on the label. 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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

1. "Mucormycosis". NORD (National Organization for Rare Disorders). Archived from the original on May 26, 2021. Retrieved May 25, 2021
2. Lee, Soo Chan; Idmurm, Alexander (2018). "8. Fungal sex: The Mucoromycota". In Heitman, Joseph; Howlett, Barbara J.; Crous, Pedro W.; Stukenbrock, Eva H.; James, Timothy Yong; Gow, Neil A. R. (eds.). The Fungal Kingdom. Wiley. pp. 177–192. ISBN 978-1-55581-958-3.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. 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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Disclaimer :

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