PRODUCT INFORMATION

Product Type: Divided Petri Dishes 90mm (DD)

Cat No. DD027 - DTM/SDA + Chloramphenicol + Cycloheximide (Actidione)

Intended Use

Isolation and differentiation of pathogenic fungi / Isolation of pathogenic fungi

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Principle and Uses:

DTM (Dermatophyte Test Medium) agar supplemented with dextrose, gentamicin, and phenol red is designed for the selective isolation of pathogenic fungi, particularly dermatophytes, from clinical and veterinary specimens. DTM aids in the isolation and early recognition of members of the *Microsporum* and *Trichophyton* genera. The phenol red indicator allows for presumptive identification of dermatophytes based on the distinct color change from yellow to red due to alkaline metabolite production. Gentamicin inhibits gram-negative bacteria, including Pseudomonas species, while allowing dermatophytes to grow. DTM helps differentiate dermatophytes from non-dermatophyte fungi, as saprophytes typically do not cause a color change. The color change from yellow to red, typically occurring within 3-6 days for pathogenic dermatophytes, allows for rapid presumptive identification.

Veterinary applications: The medium is useful for detecting dermatophytes such as *Microsporum canis*, the causative agent of ringworm in animals.

SDA (Sabouraud Dextrose Agar) supplemented Chloramphenicol + Cycloheximide is designed for the selective cultivation and isolation of pathogenic fungi, particularly dermatophytes. Chloramphenicol inhibits a wide range of gram-positive and gram-negative bacteria, reducing bacterial contamination. Cycloheximide suppresses the growth of saprophytic fungi and yeasts.

A) Preparation and collection of specimens:

1. **Skin** - Clean the affected area with 70% ethyl or isopropyl alcohol prior to removing skin scales. Remove scales from dry and peeling lesions by scraping from the inflamed edges towards the healthy skin with a sterile scalpel. Avoid using large scales as they should not be used as specimens. With acute inflamed or vesicular lesions, the skin of the blister must be carefully removed with scissors and forceps. It should be cultured together with the contents of the blister, and if possible, scales from the surrounding areas. With infiltrates on granulomatous processes, collect material from the depth and from skin folds with a sharp spoon. Collect the material on a piece of filter paper or directly on the media.
2. **Hair** - Pluck the roots of dull, lusterless hair with forceps on the media.
3. **Nails** - Differentiate between two types of nail infections.

a) Subungual Infection: All grossly deformed surface parts of the nail are removed carefully with scissors, nail file or scalpel. Chips of nail are then collected from the nail bed.

b) Surface Infection: Nail chips or small dust like particles are scraped from the surface of the nail body. Do not inoculate the media with nail pieces cut from extracted nails. It is best to use a nail fraise.

4. **Nail Wall:** Collect drops of secretion produced by applying pressure to the nail wall.

B) Inoculation

Distribute the material on the agar media with a sterile swab, loop or forceps. Slightly press the larger particles against the agar in order to obtain good contact between the specimen and the agar surface.

Composition

DTM

Enzymatic Digest of Soybean Meal .....10.0 g/L
Dextrose.....25.0 g/L
Agar.....15.0 g/L
Cycloheximide.....0.5 g/L
Chloramphenicol .....0.05 g/L
Gentamicin.....50 mg/L
Phenol Red.....0.1 g/L

SDA

Enzymatic Digest of Soybean Meal .....10.0 g/L
Dextrose.....25.0 g/L
Agar.....15.0 g/L
Cycloheximide.....0.5 g/L
Chloramphenicol .....0.05 g/L

Storage: 2-8 °C
Appearance:
DTM: slightly hazy and light to medium yellow
SDA: Light amber

pH Range: 5.4 - 5.8

Package contents: 10 plates in a package
Exp. Date: Printed on label and on the item.
Required materials not supplied: Laboratory equipment as required.

Warning and Precautions

For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Petri dishes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Petri Dishes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.
If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation. After use, prepared plates, specimen containers and other contaminated materials must be sterilized by autoclaving before discarding. Storage Instructions: On receipt, store plates in the dark at 2–8 °C. Avoid freezing and overheating. Do not open until ready to use.

Hy Laboratories Ltd.
6 Menachem Plaut St., Park Tamar, Rehovot 7670606, Israel
Tel. +972.8.9366475 **Email.** hylabs@hylabs.co.il

Implementation Date: 10/12/24
Version Number: 01

Performance Testing Results

Streaking from fresh colony culture.

TEST	ATCC	Incubation Temp. (℃)	Incubation Cond	Reaction 1		Reaction 2
Medium				DTM		SDA+CHL+ACTD
Trichophyton rubrum	MYA 4438	20-25 ℃	Aerobic, up to 7 days	Growth	The background becomes red	Growth
Aspergillus brasiliensis	16404	20-25 ℃	Aerobic, up to 7 days	Inhibited		Inhibited
Penicillium notatum	10108	20-25 ℃	Aerobic, up to 7 days	Inhibited		Inhibited
Penicillium expansum	7861	20-25 ℃	Aerobic, up to 7 days	Inhibited		Inhibited
Candida albicans	10231	20-25 ℃	Aerobic, up to 7 days	Growth	The background may change to red	Growth
Pseudomonas aeruginosa	27853	20-25 ℃	Aerobic, up to 7 days	Inhibited		/
Escherichia coli	25922	20-25 ℃	Aerobic, up to 7 days	Inhibited		Inhibited
Staphylococcus aureus	25923	20-25 ℃	Aerobic, up to 7 days	Inhibited		Inhibited

Dermatophytes: The growth of dermatophytes leads to a color change of the medium underneath the colonies from rust to red bordeaux, even before the colonies are fully developed. As growth progresses the color of the whole medium will gradually become red and a white mycelium will become visible.

Certain saprophytic mold contaminants may also grow on rust side, but the colonies and the mycelium appear before the medium's color change takes place.

Certain cycloheximide-resistant yeasts may produce a color change of the medium, but they form smooth colonies without any mycelium.

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