ARENA BioScien

Block 5, Street 9 inside The Ismailia free zone. Ismailia- Egypt
Post Code-41511
Tel.-Fax: +202 21813500/ +202 21813600
Mob.: +2 0121550942/ +2 01119225860
E-mail: sales@arenabioscientific.com
Website: www.arenabioscien.com

Milk Agar with Cetrimide

Milk Agar with Cetrimide is used for the detection and enumeration of Pseudomonas *aeruginosa* in swimming pool waters.

REF: BS.1/AC01.100.0100	100 Gram	REF: BS.1/AC01.250.0250	250 Gram
REF: BS.1/AC01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

Milk Agar was modified by Brown and Scott (1) for the confirmation of Pseudomonas aeruginosa in swimming pool waters. Swimming pool water is generally chlorinated potable water but it can also be from thermal springs or salt water. Microorganisms of concern are typically those from the body of the bathers, including the orifices. As *P.aeruginosa* can survive for longer time in water compared to other microorganisms, it is one of the major indicator organisms in the swimming pool. This organism is mainly responsible for ear and eye infection and is very likely to get disseminated in the swimming pool water due to constant contact of ears and eyes with the water. Milk Agar with Cetrimide is formulated in accordance with ISO Committee under the specifications ISO 8360-1: 1988 for the detection and enumeration of *P.aeruginosa* from water (2). Strains of *P.aeruginosa* are identified by their pigment production i.e. pyocyanin. *P.aeruginosa* is the only species of Pseudomonas or gram-negative rod known to excrete pyocyanin.

METHOD PRINCIPLE

P.aeruginosa hydrolyzes casein and produces a yellowish to green diffusible pigment on Milk Agar. For isolation, filter 200ml or less water of the swimming pool through sterile membrane filters. Place each membrane filter on M-PA Agar. Incubate the plates at 41.5±0.5°C for 72 hours. Typical *P.aeruginosa* colonies are 0.8-2.2 mm in diameter, flat in appearance with brownish to greenish centers. For confirmation, using Milk Agar w/ Cetrimide, make a single streak from an isolated colony on a Milk Agar w/ Cetrimide plate and incubate at 35-37°C for 24 hours. After incubation *P.aeruginosa* forms pigmented colonies. Milk, skim milk powder, peptic digest of animal tissue and yeast extract provide all the necessary nutrients mainly nitrogenous for the multiplication of *P.aeruginosa* . *P.aeruginosa* forms yellowish green colonies on this medium. Cetrimide acts as a quaternary ammonium, cationic detergent that causes release of nitrogen and phosphorus from bacterial cells other than *P.aeruginosa* .

MEDIA COMPOSITION

Item	Formula per liter of medium
Part A - Skim milk powder	133.33 gm.
Part B - Peptic digest of animal tissue	3.330 gm.
- Sodium chloride	1.670 gm.
- Yeast extract	1.000 gm.
- Cetrimide	0.400 gm.
- Agar	20.000 gm.

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.
S57: use appropriate container to avoid environmental Contamination.
S61: avoid release in environment.

For further information, refer to the Milk Agar with Cetrimide material safety data sheet.

STORAGE AND STABILITY

BioScien Milk Agar with Cetrimide dehydrated media are stable until expiration date stated on label when properly stored 10-30°C. The prepared medium should be stored at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Final pH 7.3 ± 0.2 at 25°C

MEDIA PREPARATION

- Suspend 26.4 grams of Part B in 250 ml distilled water.
- Adjust pH to *7.3 ± 0.2 at 25°C*
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 lbs. pressure (121°C) for 20 minutes.
- Suspend 133.33 grams of Part A in 750 ml of distilled water
- Sterilize by autoclaving at 15 lbs. pressure (121°C) for 5 minutes.
- After autoclaving mix Part A and B and pour into sterile Petri plates.

Deterioration

The color of ***BioScien*** milk agar with cetrimide appearance of
Part A: White to cream homogeneous free flowing powder
Part B: Cream to yellow homogeneous free flowing powder. If there are any physical changes, discard the medium.
The hydrated medium is Light amber coloured opalescent gel forms in Petri plates, media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations.

SPECIMEN COLLECTION AND PRESERVATION

Clinical samples

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Petri plates
- Sterile loops
- Incubator

PERFORMANCE CHARACTERISTICS

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Test Organisms	Growth
Escherichia coli ATCC 25922	Luxuriant
Pseudomonas aeruginosa ATCC 27853	Luxuriant
Stenotrophomonas maltophilia ATCC 13637	Luxuriant

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact ***BioScien*** technical support.

REFERENCES

1.Brown M. R. W. and Scott F. J. H., 1970, J. Clin. Pathol., 23:172.
2.International Organization for Standardization (ISO), Draft ISO/DIS 8360-1:1988.

SYMBOLS IN PRODUCT LABELLING	
IVD For in-vitro diagnostic use	Number of <n> test in the pack
LOT Batch Code/Lot number	Caution
REF Catalogue Number	Do not use if package is damaged
Temperature Limitation	Consult Instruction for use
Expiration Date	
Manufactured by	