CETRIMIDE PSEUDOMONAS SELECTIVE AGAR

PRODUCT:

Plated Media:

Cetrimide Pseudomonas Selective Agar P3925

Tubed Media:

Cetrimide Pseudomonas Selective Agar T6265

PURPOSE:

Cetrimide Pseudomonas Selective Agar is used for the selective isolation and identification of *Pseudomonas aeruginosa.* This media meets the U.S. Pharmacopeia (USP) standards in performing microbial examination of nonsterile products.

PRINCIPLE:

Cetyltrimethylammonium bromide is a quaternary ammonium compound with germicidal activity effective against most organisms except *Pseudomonas aeruginosa*. Harper and Canton[1] and, later, Hood[2] described the use of this disinfectant for the selective isolation of *Pseudomonas aeruginosa* from other mixed bacterial flora. Lowbury[5] initially incorporated the compound into nutrient agar and later improved the media by lowering the concentration of the compound from 0.1% to 0.03% for optimal growth of *Pseudomonas aeruginosa*.[6] The majority of the other gram-negative fermenters are completely inhibited on this media. Pigment production, both pyocyanin and fluorescein, is enhanced on cetrimide agar.

FORMULA:

Approximate, per liter deionized filtered water.

Pancreatic Hydrolysate of Gelatin	20.0 g
Magnesium Chloride	1.4
Dipotassium Sulfate	10.0
Agar	13.6
Cetrimide	0.3
Glycerol	10.0 ml

Final pH 7.2 ± 0.2 at 25°C

PRECAUTIONS:*

For *in vitro* diagnostic use. Observe approved biohazard precautions.

Storage: Upon receipt store at 2-8°C away from direct light. Media should not be used if there are signs of contamination, deterioration (shrinking, cracking, or discoloration), or if the expiration date has passed.

Limitations: Pigmentation may vary with different strains of the same species, and may be lessened at temperatures above 35°C.

Incubation with tight caps will produce a weak or no color change.

Pseudomonas aeruginosa may lose its fluorescence under ultraviolet light after standing for a short time at room temperature. Fluorescence may reappear if the plate or tube is reincubated.[4]

PROCEDURE:*

Specimen Collection: Not applicable since this is not a media for primary isolation of organisms from clinical specimens. This media is used in characterizing pure cultures of isolated organisms. Established isolation techniques and tests for purity are necessary before inoculating this media. Direct inoculation of specimens may lead to erroneous results. Information on specimen collection may be found in standard reference texts.[3,4]

Method of Use, Tube: Prior to inoculation, the media should be brought to room temperature. Inoculate from a pure 18-24 hour culture onto the slant. Streak, using a fishtail motion. Incubate aerobically with loose caps at 35°C and examine after 18-24 hours. If no growth occurs, the media may be reexamined daily for up to 7 days.

Method of Use, Plate: If using a multipoint inoculation system, lightly touch the top of one or two well-isolated colonies and inoculate into a broth culture. Deposit a broth spot 5-6 mm in diameter onto the surface of the agar plate using the replicator or any comparable device. Incubate aerobically at 35°C for 18-24 hours. Inoculate a positive and negative control organism onto each plate used for testing.

Interpretation: The presence of growth is indicated by a positive reaction on this media. Colonies may be examined under ultraviolet light for the presence of fluorescein, and the media may be inspected visually for pigment production which is typically pale green to dark blue-green in color. No growth is indicative of a negative reaction.

Materials Required but Not Provided: Standard microbiological supplies and equipment such as loops, needles, incubator, incinerator, and inoculation system are not provided.

QUALITY CONTROL:*

Microorganisms Used (ATCC #):	**Expected Results:**
Pseudomonas aeruginosa (27853)	Growth; Green pigment, UV(+)
Pseudomonas aeruginosa (10145)	Growth; Green pigment, UV(+)
Escherichia coli (25922)	Inhibition
Escherichia coli (8739)	Inhibition
Staphylococcus aureus (25923)	Inhibition
	Key: See “Interpretation”

User Quality Control: Check for signs of contamination and deterioration. The media should appear translucent or slightly opalescent with precipitate, and light amber in color.

BIBLIOGRAPHY:

1. Harper, G. J., and W. C. Cawston. 1945. *Bull. Inst. Med. Lab Techn.*, *11*:40.
2. Hood, A. M. 1948. *Mon. Bull. Minist. Health*, London, *7*:248.
3. Koneman, E. W., et al., *Color Atlas and Textbook of Diagnostic Microbiology*, 6th ed., J. B. Lippincott, Philadelphia, 2005.
4. Lennette, E. H., et al., *Manual of Clinical Microbiology*, 4th ed., American Society for Microbiology, Washington, D. C., 1985.
5. Lowbury, E. J. 1951. *J. Clin. Pathol.*, *4*:66.
6. Lowbury, E. J., and A. G. Collins. 1955. *J. Clin. Pathol.*, *8*:47-48.
7. United States Pharmacopeia 30 - NF 25, Chapter 62, Microbial examination of nonsterile products: Tests for specified microorganisms, 2007.

*For more detailed information, consult appropriate references.

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