

HiTouch™ Flexi Plate - CT

FL014

For enumeration (count) of *Pseudomonas aeruginosa* .

Composition**

Ingredients	Gms / Litre
Pancreatic digest of gelatin	20.000
Inorganic salts	11.400
Cetrimide	0.300
Agar	16.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Open the lid and carefully lift up the enclosed prepared medium plate so as to avoid touching the agar surface by hand. Touch the surface of agar plate onto the surface to be tested. Gently press the plate manually for upto 10 seconds. Apply constant and uniform pressure to the whole surface (ensuring that an even pressure of 25 gm/cm² is distributed over the whole plate for 10 seconds). Replace exposed medium plate in the base plate. Close the lid. Press the sides of the lid to back make sure that it is fixed in the grooves. Disinfect the surface where the sample was taken in order to remove any possible traces of agar. Incubate the plates at specified temperature. After incubation as recommended count the number of colonies which have appeared on the surface of medium. Alternative Methods of Inoculation : To use as Culture Plate (ii), Sample Dilution Plate (iii) or Swabbing Plate (iv) To use as Gravitation Settling Plate (v)

Principle And Interpretation

Hitouch Flexi Plates are specially developed for the microbial testing in food , pharmaceutical, cosmetic,dairy, hospitals, water works, environmental testing etc. These plates are handy and ready to use sterile media supplied in flexible disposable plates, 55 mm in diameter. It is grid scored on the base and is irradiated to ensure perfect sterility. Medium is filled aseptically and each plate is packed in pre-sterilized plastic bag. Hitouch Flexi Plate is then packed in plastic pouch wrapping. The unique flexible plate configuration ensures close contact even with uneven surfaces. where not only counts are obtained but it is also possible to select and differentiate between groups of microorganisms like coliforms (both *E. coli* and non *E. coli*). These plates are specially developed for microbial testing, The Flexi plate medium formula is suitable for enumeration of *Pseudomonas* and the grids enable direct reading on the plates of the number of colonies per cm².

Pseudomonas aeruginosa grows well on all normal laboratory media but specific isolation of the organism, from environmental sites or from human, animal or plant sources, is best carried out on a medium, which contains a selective agent and also constituents to enhance pigment production. Most selective media depend upon the intrinsic resistance of the species to various antibacterial agents. Cetrimide inhibits the growth of many microorganisms whilst allowing *Pseudomonas aeruginosa* to develop to develop typical colonies. Cetrimide is a quaternary ammonium salt, which acts as a cationic detergent that reduces surface tension in the point of contact and has precipitant, complexing and denaturing effects on bacterial membrane proteins. It exhibits inhibitory actions on a wide variety of microorganisms including *Pseudomonas* species other than *Pseudomonas aeruginosa* . King et al developed Medium A for the enhancement of pyocyanin production by *Pseudomonas* (1). Cetrimide Agar developed by Lowbury (2) is a modification of Tech Agar (Medium A) with addition of 0.1% cetrimide for selective isolation of *P.aeruginosa* . Later, due to the availability of the highly purified cetrimide, its concentration in the medium was decreased (3). The incubation was carried out at 37°C for a period of 18-24 hours (4). *P.aeruginosa* can be identified due to their characteristic production of pyocyanin, a blue, water-soluble, nonfluorescent phenazine pigment coupled with their colonial morphology and the characteristic grape-like odor of aminoacetophenone (5). *P.aeruginosa* is the only species of *Pseudomonas* or gram-negative rod known to excrete pyocyanin. These media are therefore, important in the identification of *P.aeruginosa* . These media are used for the examination of cosmetics (6) and clinical specimens (5, 7) for the presence of *P.aeruginosa* ,

as well as for evaluating the efficacy of disinfectants against this organism (8). Pancreatic digest of gelatin provide necessary nutrients for *P.aeruginosa*. Sodium chloride maintains osmotic equilibrium in the medium. Magnesium chloride and potassium sulfate stimulates pyocyanin production. (9). For the isolation of *P.aeruginosa*, plates of Cetrinide Agar should be inoculated from non-selective medium such as Brain Heart Infusion Broth (M210) or Soyabean Casein Digest Medium (M011). If the count is high, the test sample can be directly inoculated onto Cetrinide Agar. *P.aeruginosa* colonies may appear pigmented blue, blue-green or nonpigmented. Colonies exhibiting fluorescence at 250nm and a blue green pigmentation are considered as presumptive positive. *P.aeruginosa* may lose its fluorescence under UV if the cultures are left at room temperature for a short time. Fluorescence reappears after the plates are re-incubated (4). Type of peptone used in the base may also affect pigment production (4, 10). Certain strains of *P.aeruginosa* may not produce pyocyanin. Other species of *Pseudomonas* do not produce pyocyanin but fluoresce under UV light. Most non-fermenting *Pseudomonas* species are inhibited on Cetrinide Agar and some species of *Pseudomonas* may also be inhibited. Some non-fermenters and some aerobic spore formers may exhibit a water-soluble tan to brown pigmentation on this medium. *Serratia* may exhibit pink pigmentation (3). Biochemical tests and serological procedures should be performed to confirm the findings.

Quality Control

Appearance

Sterile plastic plate containing light yellow coloured firm gel

Quantity of Medium

9ml of gel in plastic plate

Reaction

7.00- 7.40

Sterility test

Passes release criteria

Cultural response

Cultural characteristics was observed after incubation at 35°C for 18-24 hours.

Organism	Growth
<i>Pseudomonas aeruginosa</i> ATCC 27853	Luxuriant
<i>Stenotrophomonas maltophilia</i> ATCC 13637	Inhibited
<i>Escherichia coli</i> ATCC 25922	Inhibited
<i>Staphylococcus aureus</i> ATCC 25923	Inhibited

Storage and Shelf Life

Store between 2-8°C. Use before expiry date on the label.

Reference

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