TO Study Production Of Fluroscent Nail Paint From Secondary Metabollites Of P.aeruginosa[Pyocanin].

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ABSTRACT

Pseudomonas aeruginosa is a opportunistic bacteria in microflora.It is usually present on body in certain regions.They do not cause any disease but environmental change in their favour can make them infectious .The fluroscent pigment from P.aeruginosa is used as a biocontrol agents "P G P B" [Plant Growth Promotor Bacteria].Using King's media and broth we isolate pigmented colonies are further centrifuged to isolate blue green coloured pigments which is the main component of the nail paint produced.

INTRODUCTION

P.aeruginosa is a Gram-negative rod shaped,motile organism.It is commonly found free living in moist environments but it is also a pathogen of plants,animals and humans.It produces water soluble pigments which diffuse through the medium.The best known are "pyocanin" [blue green], "pyoverdine" [yellow - green fluroscent] and [red -brown produced by a small proportion of strain]. P.aeruginosa is an arrobe , but can multiply slowly in anaerobic environment in precence of nitrate as a hydrogen acceptor.The optimum growth tempurature range for P.aeruginosa is 37°C - 42°C . P.aeruginosa is often identified in vitro by its typical "grape like" odour.

Domain	Bacteria
Phylum	Bacteria
Class	Gammaproteobacteria
Order	Pseudomonadales
Family	Psudomonadaceae
Genus	Pseudomonas
Species group	Pseudomonas aeruginosa group
Species	P.aeruginosa

Table no 1 :- Scientific classification

P.aeruginosa shows growth on blood agar , Mac konkey agar, Centrimide agar and isolate pyocanin , hence we used elaboration of pyocanin

• **Ingredients**	• **GM's/liter**
Proteose peptone	20.00
Potassium sulphate	10.00
Magnesium chloride	1.64
Anhydrous agar	15.00

Table no 2 :- Composition of Kings Agar A.

Requirements :-

1) E.coli slant

2) P. aeruginosa slant

3) Kings Agar A

4) Saline solution

5)Nail paint base

6)Hcl

7)$Fecl_3$

8)Phenole

9)Nacl

10)Autoclaved petriplates

11)Autoclaved flasks

12)Nicrome wire loop

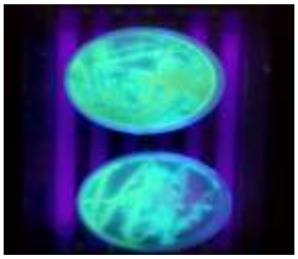
13)Distilled water.

Procedure :-

Take P. aeruginosa from slant and dissolve in saline solution.Take suspension from above and add it to kings broth containing E.coli streak the above suspension using nicrome wireloop on a ''kings agar A'' media plate and incubate for 48 hr at 37°C . The blue green coloured colonies will show pigment. Take the blue green coloured isolated colony from plate dissolve it in Hcl + $FECL_3$ solution at pH 7-7.3 Centrifuge it at 1000 -2000 rpm.Take the supernatent and dissolve it in Phenol + Nacl solution and centrifuge again .Take the supernatent containing the pyocanin and discard the pellet . Add the supernatent in the nail paint base.

Result :-

Pseudomonas aeruginosa will form blue green coloured colonies which contain pigment pyocanin.



- 1)Blue green coloured colonies

Interpretation :-

Pseudomonas aeruginosa shows infection in human body even though we used P.aeroginosa as we needed pyocanin for the nail paint as our main component .to lesson down the threat of infection we treated the isolated colonies with Hcl,$Fecl_3$,Nacl, ane phenol during the centrifugation process.After this process we got the pigment in the supernatent and the cells were discarded that settled in the form of pellet.