Transformation

Introduction

Transformation is the natural phenomenon, in which the bacterial population transfers their genetic material to acquire novel phenotypic characteristics. The event of transformation was initially demonstrated by Frederick Griffith in 1928. Transformation is the process by which foreign DNA is introduced into a cell. In this procedure, the heat shock (42^0C for 90 sec) method is utilized to relax the cell wall.

Materials

- Competent cells
- LB medium
- Antibiotic
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Procedure

1. The 100µL of competent cells were taken and added to autoclaved microcentrifuge or eppendorf tube of 1.5mL.
2. The 2µL of plasmid was added to the above mentioned competent cells.
3. This was incubated on ice for 1hour in a cold room.
4. The competent cells were exposed to 40^oC of heat shock for 90seconds
5. Once heat shock procedure was accomplished the cells were quickly placed on ice for 2minutes.
6. Then 500µL of LB was added.
7. The transformed cells were incubated for 1hour at 37^oC in the shaker incubator at the speed of 120rpm.
8. Then the transformed culture was spread on LBA having antibiotic(Kanamycin 25µg/mL).
9. It was incubated overnight at 37^OC.
10. LBA with appropriate antibiotic (Kanamycin 25µg/mL) was prepared and incubated overnight at 37^oC to analyze the sterility of media. Once no growth on LBA was observed then it was used for transformants culture.