LAB #23: Transformations (pVIB) Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_

**Purpose**:

**Predictions & Data:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Plate** | **Prediction – Will growth be present?** | **Reason(s)/ Explanation**  **For Prediction** | **Observed Results** | |
| **Estimate # colonies (or “lawn”)** | **Fluorescence Present?** |
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**Analysis:**

1. If your observed results differed from your predictions, explain what you think may have occurred.
2. Analyze the following pairs of plates. Explain the contribution (experimental need) of each pair.

|  |  |  |
| --- | --- | --- |
| **Paired Plates** | **Compare/Contrast the # of colonies** | **What do the results of these 2 plates tell you about the experiment?** |
| LB +plasmid  LB -plasmid |  |  |
| LB/Amp -plasmid  LB -plasmid |  |  |
| LB/Amp +plasmid  LB/Amp - plasmid |  |  |
| LB/Amp +plasmid  LB +plasmid |  |  |

1. What are you selecting for in this experiment? (i.e., what tells you that the transformation has been successful and that the plasmid is in the recipient cells?) List TWO.
2. What does the phenotype of the transformed colonies tell you?
3. What ONE plate would you first inspect to conclude that the transformation occurred successfully? Why?
4. List at least **two experimental factors** that could influence transformation efficiency/success. Explain the effect of each factor you mention.
5. **Calcium chloride**:
   1. What was the function (purpose) of adding CaCl2?
   2. How would the results of the experiment varied if CaCl2 was not used?
6. **Selectable markers:**
   1. What was the selectable marker in this experiment?
   2. Why is a selectable marker essential?
   3. How would the results of this experiment varied if a selectable marker wasn’t used?
7. **Non-selectable marker**:
   1. What was the non-selectable marker in this experiment?
   2. What is the purpose of a non-selectable marker?