**Transformation by Electroporation**

1. Thaw competent cells and DNA on ice, and chill electroporator cuvettes (1 mm gap, 100 µl cuvettes).
2. Mix 1 µl plasmid DNA and 50 µl cells in cuvette (add cells to DNA).
   1. Positive control: 1 µl pUC18 DNA + 50 µl cells (pUC18 is Amp resistant)
   2. Negative control: 1 µl water + 50 µl cells
3. Incubate on ice for 30 min.
4. Shock at 1800 V (take note of actual voltage and time constant).
5. Immediately add 450 µl media (TB supplemented with 20 mM glucose).
6. Transfer mixture to falcon tube and shake for 1 hr at 37ºC.
7. Spread different amounts on antibiotic plates (10-20 µl, 50 µl, 100 µl, etc.).
8. Grow overnight at 37ºC.
9. To calculate plating efficiency, need exact concentration of DNA.
10. Count colonies on plate.
11. Calculate amount of DNA in final plated amount.
12. Efficiency = # colonies / µg DNA plated (should be around 108).