Purpose: To insert plasmid DNA into bacteria

Transformations (Electroporation or Heat Shock)

Electroporation

1. Combine 40 µL of electrically competent DH5a cells and 1 µL of ligated DNA to an Eppendorf tube.
2. Transfer the contents of the Eppendorf tube to a cuvette and lightly tap the cuvette on the table to evenly distribute the contents and to get rid of air bubbles.
3. Place the cuvette into the Bio-Rad MicroPulser and deliver the electric shock.
4. **Immediately after**, add 900 µL SOC medium to the cuvette and micropipette mix the solution.
5. Transfer the solution from the cuvette to a shaker tube and place in the shaker at 37°C at 200 rpm for 1 hour.
6. After shaking for 1 hour, streak 150 µL of the solution onto an agar plate with the respective antibiotics.
7. Incubate plates at 37°C for at least 24 hours.

Heat Shock

1. Thaw One Shot TOP10 chemically competent cells on ice.
2. Add 2 µL of DNA sample into competent cells
3. Incubate the cells on ice for 35 minutes.
4. After the ice incubation, place the samples into a 42° C water bath for 30 seconds.
5. **Quickly** take them out and **immediately** add 250µL of SOC medium
6. Place the samples into a 37° C shaking water incubator for 1 hour at 200 rpm.
7. After shaking for 1 hour, streak 150 µL of the solution onto an agar plate with the respective antibiotics.
8. Incubate plates at 37°C for at least 24 hours.