

# Chemical transformation

## Aim of the experiment

This protocol can be used to transform chemical competent cells with DNA from various sources such as Ligation, Gibson Assembly or pure plasmid.

## Materials

- Chemically competent cells (e.g. DH5 $\alpha$  (NEB))
- SOC/LB Media
- LB-Agar Plates with corresponding Antibiotic
- Heatblock
- Template DNA

## Procedure

All steps must be done on ice!

1. Thaw cells on ice.
2. Add 1 $\mu$ l of DNA.
3. Wait for 30 minutes, (note that the transformation efficiency will increase by 2 for every 10 minutes of incubation.)
4. Heat-shock 30 seconds at 42°C.
5. Regenerate on ice for 5 minutes.
6. Add 950 $\mu$ l SOC/LB Media.
7. Incubate at 37°C and 250 rpm for 1 hour.
8. Spin down for 30 seconds, discard 900 $\mu$ l and transfer the cells onto the plate by resuspension in the remaining media.
9. Spread the cells with plating beads by shaking for at least 10 seconds.
10. Incubate plates overnight at 37°C.