

# Lyophilisation preparation

## Aim of the experiment

Lyophilisation which is also known as freeze-drying, is a process used to turn liquid into dry solid at freezing temperature. We applied this method to our cell extract, to make it much easier for transportation and storage, also having longer lifetime and more stable in room temperature.

## Materials

- Cell extract
- 0.5ml micro-centrifuge tubes
- TX-TL buffer
- Nuclease-free water

## Procedure

Keep the samples always on ice!

1. Prepare cell extract from the Cell-Free System Protocol.
2. Prepare 28.5µl extract in 0.5ml micro-centrifuge tubes.
3. (Alternatively) Mix 28.5µl extract with 35.6µl TX-TL buffer (5 reactions) in 0.5ml micro-centrifuge tubes if an instant expression is desired.
4. Flash freeze the samples in liquid nitrogen.
5. Keep the samples on ice or at -80°C until they can be undergo lyophilisation.
6. Freeze-dry the samples at least for 5 hours.
7. Wrap the tubes with parafilm after lyophilisation and keep them in an air-tight container filled with silica beads.
8. Resuspend the lyophilized samples with required nuclease-free water only right before use.