FINA Method for DNA Extraction

Adapted from: McFall, Sally M., et al. ”A simple and rapid DNA extraction method from whole blood for highly sensitive detection and quantitation of HIV-1 proviral DNA by real-time PCR.” Journal of virological methods 214 (2015): 37-42.

Aim of the Experiment

This experiment is used to extract DNA from bacterial cells using Fusion 5 matrix membrane.

Materials

- Fusion 5 matrix membrane (GE, Product code: 8151-9915)
- 10 mM NaOH (Carl Roth, Germany)
- Blotting pad or paper towels
- Parafilm sheet (Sigma Aldrich, Germany)

Procedure

Prepare the FINA Module

1. Cut the Fusion 5 membrane into a square of cycle with around 7-10 mm in length/diameter.
2. Put the membrane on 1-2 sheets blotting pad or paper towels.
3. Cut a hole with a diameter of 5-8 mm in a parafilm sheet.
4. Put the parafilm sheet on top of the membrane with the middle of the hole on the middle of the membrane.
5. Tightly press the parafilm and membrane to seal the module.
6. Cover the modules with paper or similar to avoid contamination.

Purification

1. Pipette 50 μl of the sample on the middle of the Fusion 5 membrane.
2. Wait around 10 s for the membrane to be soaked in sample.
3. Wash by slowly pipetting around 600 μl 10 mM NaOH on the membrane.
4. Wait around 15 s until the blotter pad has absorbed the washing solution.
5. The membrane has bound DNA. Process downstream, e.g. by putting the membrane into a PCR-mix or diluting the DNA in nuclease-free H_2O.