FINA Method for RNA Extraction

Adapted from: McFall, Sally M., et al. (2015)

Work as carefully as possible to avoid contamination with RNases. Clean everything before use and only use equipment meant for experiments with RNA.

Aim of the Experiment

This protocol is used to test the FINA method using Fusion 5 for RNA extraction. It was not possible to show significant RNA extraction/purification.

Materials

- Fusion 5 matrix membrane (GE, Product code: 8151-9915)
- 10 mM NaOH (Carl Roth, Germany)
- Murine RNase inhibitor (M0314S, NEB, Germany)
- Nuclease free H_2O (Carl Roth, Germany)
- Tweezers
- 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.

Elution

1. In a 0.5 ml tube, pipette 39 μl nuclease free H_2O.
2. Add 1 μl murine RNase inhibitor. Mix well by pipetting.
3. Use tweezers to put the membrane in the 0.5 ml tube.
4. Incubate, 10-20 min, room temperature.
5. Use the eluate for downstream experiments.