Separate RNA and DNA

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Version: 1.0 - Print Version (.PDF)

ATTENTION: This is a low priced and well working protocol. Use it preferably!

1. Dilute the DNA/RNA solution to **90 µl**
2. Add **30 µl 8M LiCl** and mix well
3. Store **30 min at -20 °C**
4. Spin **10 min** at max speed at 4 °C
5. Keep **supernatant (DNA)** and **pellet (RNA)**
6. Wash **RNA pellet** with **100 µl 70% Ethanol**
7. Spin **10 min** at max speed
8. Dissolve the RNA pellet in **30 µl water**
9. Store the RNA solution at -80 °C
10. Add **80 µl isopropanol** to the **supernatant containing the DNA**
11. Store **30 min at -20 °C**
12. Spin **10 min** at max speed
13. Keep the **pellet (DNA)**
14. Wash **DNA pellet** with **100 µl 70% Ethanol**
15. Spin **5 min** at max speed
16. Dissolve the DNA pellet in **30 µl water**
17. Store the DNA pellet at -20 °C

Commented Protocol:

1. Dilute the DNA/RNA solution to 90 µl

Do not dilute RNA too much or the RNA will not precipitate and be lost.

2. Add 30 µl 8M LiCl and mix well

LiCl precipitates only the RNA.

3. Store 30 min at -20 °C

Some protocols incubate 2 - 4 h on ice, others 1 h at -80 °C.

4. Spin 10 min at max speed at 4 °C

5. Keep supernatant (DNA) and pellet (RNA)

6. Wash RNA pellet with 100 µl 70% Ethanol

7. Spin 10 min at max speed

8. Dissolve the RNA pellet in 30 µl water

Some protocols precipitate again with 1/10 vol of 3 M NaAc and 2.5 vol 100% ethanol and wash then the pellet again with 70% ethanol before dissolving it. I never found it necessary.

9. Store the RNA solution at -80 °C

10. Add 80 µl isopropanol to the supernatant containing the DNA

11. Store 30 min at -20 °C

Now we precipitate the DNA.

12. Spin 10 min at max speed

13. Keep the pellet (DNA)

14. Wash DNA pellet with 100 µl 70% Ethanol

15. Spin 5 min at max speed

16. Dissolve the DNA pellet in 30 µl water

17. Store the DNA pellet at -20 °C

Known Issues:

- If separation is incomplete, try to use bigger volumes.

References and Comments:

This is a basic protocol commonly in use. It works very well even when compared with commercial kits.

How to cite this page in publications:

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<http://www.untergasser.de/lab/protocols/separate_rna_and_dna_v1_0.htm>.

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