

Total RNA Isolation from 50–100 mg Plant Tissue

AquaPure® RNA Isolation Kit

Catalog #732-6370

Expected yield range: 50–200 µg RNA

Method

Cell lysis

1. Add 50–100 mg (0.05–0.1 g) frozen ground tissue or fresh tissue to a tissue grinder tube on ice and then add 3 ml cell lysis solution. Grind frozen tissue finely in liquid nitrogen with a porcelain mortar and pestle. Keep tissue frozen until added to the tissue grinder tube.
2. Homogenize quickly using 5–10 strokes with a tube pestle. Transfer sample to an Oak Ridge centrifuge tube (or other tube rated for high speed).

Protein-DNA Precipitation

1. Add 1 ml protein-DNA precipitation solution to the cell lysate.
2. Invert tube gently 10 times and place tube into an ice bath for 10 min.
3. Centrifuge at 15,000 x g for 5 min. The precipitated proteins and DNA will form a tight pellet.

RNA Precipitation

1. Pour the supernatant containing the RNA (leaving behind the precipitated protein-DNA pellet) into a clean Oak Ridge centrifuge tube (or other tube rated for high speed) containing 3 ml 100% isopropanol (2-propanol).
2. Cap the tube. Mix the sample by inverting gently 50 times.
3. Centrifuge at 15,000 x g for 5 min; the RNA will be visible as a small, translucent pellet.
4. Pour off supernatant and drain tube on clean absorbent paper. Add 3 ml 70% ethanol. Cap and invert the tube several times to wash the RNA pellet.
5. Centrifuge at 15,000 x g for 2 min. Carefully pour off the ethanol.
6. Invert and drain the tube on clean absorbent paper and allow to air-dry for 15 min.

RNA Hydration

1. Add 300 µl RNA hydration solution (300 µl will give a concentration of 500 µg/ml if the total yield is 150 µg RNA).
2. Allow RNA to rehydrate on ice at least 30 min. Vortex vigorously for 5 sec, pulse-spin and carefully transfer sample to a 1.5 ml microfuge tube. Store purified RNA sample at -70°C to -80°C until use.
3. Before use, vortex sample vigorously for 5 sec and pulse-spin. Pipet sample up and down several times to ensure adequate mixing.

Ordering Information

Catalog #	Description
732-6370	AquaPure RNA Isolation Kit, for animal and plant tissues, cultured cells, and gram-negative bacteria, processes up to 100 x 0.5–10 mg animal or plant tissue preps, 100 cultured cell preps (1–2 x 10 ⁶ cells/prep), or 100 x 0.5 ml bacterial cultures per kit

Related Products

732-6371	AquaPure RNA Blood Kit, for human and mammalian whole blood and bone marrow, processes up to 100 x 0.3 ml whole blood samples per kit
732-6340	AquaPure Genomic DNA Isolation Kit, for cultured cells and gram-negative bacteria, processes up to 100 cultured cell preps (1–2 x 10 ⁶ cells/prep), or 100 x 0.5 ml bacterial cultures per kit
732-6343	AquaPure Genomic DNA Tissue Kit, for animal and plant tissues, cultured cells, and gram-negative bacteria, processes up to 100 x 0.5–10 mg animal or plant tissue preps, 100 cultured cell preps (1–2 x 10 ⁶ cells/prep), or 100 x 0.5 ml bacterial cultures per kit
732-6345	AquaPure Genomic DNA Blood Kit, for human and mammalian whole blood and bone marrow, processes up to 100 x 0.3 ml whole blood samples per kit