

DNA: Concentrating DNA Extracts Using the Eppendorf Vacufuge[®] Plus

Principle

The Eppendorf Vacufuge[®] Plus instrument is designed for the evaporation of liquid or wet samples.

To maximize the potential amount of template DNA for PCR reactions, the Eppendorf Vacufuge[®] Plus instrument concentrates the DNA in extracts by decreasing the aqueous volume of the sample.

Materials and Equipment

This procedure uses the Eppendorf Vacufuge[®] Plus instrument.

Rate of Evaporation

The Vacufuge[®] Plus instrument concentrates liquid samples at the following rates:

- 1) < 30 μ L - evaporation occurs at ~0.75 μ L per minute
 - 2) 30 μ L – 50 μ L - evaporation occurs at ~1.0 μ L per minute
 - 3) 50 μ L – 100 μ L - evaporation occurs at ~1.5 μ L per minute
 - 4) 100 μ L – 200 μ L - evaporation occurs at ~2.0 μ L per minute
 - 5) 200 μ L – 300 μ L - evaporation occurs at ~3.0 μ L per minute
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Concentration of DNA extracts

The following procedure is used to concentrate DNA Extracts.

Step	Action
1	Turn on the Eppendorf Vacufuge® Plus instrument and allow to warm up for at least 15 minutes.
2	Set the warm up run time to 15 minutes (h:mm) using the “▼” and “▲” keys.
3	Set the brake function to “ON” using the “brake” key.
4	Set the temperature function to “--” using the “temp” key.
5	Set the function of the instrument to “V-AQ” using the “mode/vent” key.
6	Press the “start/stop” key.
7	When the run is complete, open the lid to the instrument.
8	Decap the DNA extract tube(s) and reagent blank sample (if necessary) and load them into the instrument’s rotor bores. NOTE: The rotor of the Vacufuge® Plus instrument can be removed.
9	Close the lid to the instrument and set the concentration run time (h:mm) using the “▼” and “▲” keys.
10	Press the “start/stop” key.
11	When the run is complete, open the lid to the instrument.
12	Using a pipette, measure the remaining volume of DNA extract. <ul style="list-style-type: none"> • If a suitable volume of extract is obtained, no further processing of the sample is required. • If the volume of the extract is too high, run the sample in the Vacufuge® Plus instrument until a suitable volume of extract is obtained. • If the volume of the extract is too low, add sterile water until a suitable volume of extract is obtained.

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Instrument cleaning

The instrument is cleaned using the following procedure.

Step	Action
1	Close the lid to the instrument and set the run time to 1 minute (h:mm) using the “▼” and “▲” keys.
2	Press the “start/stop” key.
3	While the instrument is running, press the “mode/vent” key for a few seconds to remove any condensation from the pump.
4	Open the lid and clean the rotor, rotor chamber, and lid by first wiping with a tissue moistened with 10% bleach and then a tissue moistened with distilled water.
5	Close the lid to the instrument and turn off the Vacufuge® Plus instrument.