ReDUCE DNA Concentrator – Protocol

for quick and safe concentration of aqueous genomic DNA solutions

Equipment needed:

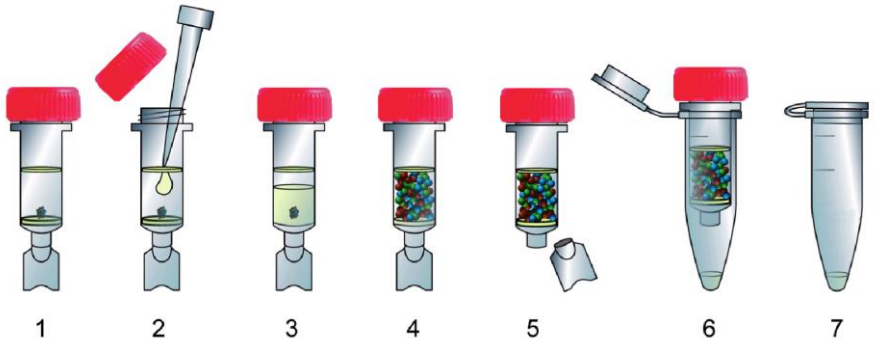
- Vortexer
- Microcentrifuge
- One reaction tube (1.5 ml) for eluate collection
- Pipet and pipet tips

Important notes before starting:

- Electrostatic charge can cause the beads to stick to the wall and/or cap of the tube.
- The total incubation time — from the transfer of sample to the column to the start of centrifugation — is just 4 minutes.

Protocol:

1. Place the ReDUCE DNA Concentrator in a 1.5 ml reaction tube and together in a rack.
2. **Tap the tube to make sure that the all the beads are at the bottom of the ReDUCE tube.** If necessary, centrifuge the tube for 1 minute (see Picture (1) below).
3. **For sample sizes smaller than 200 µl, add DNAse free water to a final volume of 200 µl.**
4. Open the cap and **add your DNA sample (200 µl)** (Picture 2).
5. Close the cap and **vortex for 3 seconds.**
6. **Incubate for 4 minutes.** The concentrator beads will absorb 180–190 µl fluid during incubation time (Pictures 3 and 4). **Note:** Remaining liquid is typically not visible and will be recoverd in step 8.
7. **Snap off the bottom closure by turning and replace in the 1.5 ml reaction tube** (Pictures 5 and 6).
8. **Centrifuge for 2 minutes at maximum speed.**
9. **Discard the ReDUCE DNA Concentrator and store the concentrated DNA** until further use at 4°C or –20°C. (Picture 7).



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Product no. (rxn's)	**040-011-010** (10)	**040-011-050** (50)
Kit contents	Concentrator Columns	

Storage

Storage: Room temperature (15–25°C).
Stability: Minimum of 12 months at recommended storage temperatures.

Safety information

The beads in the ReDUCE DNA Concentrators are **non-toxic**.

Introduction

ReDUCE DNA Concentrators enable the concentration of DNA solutions from a **volume of 200 µl to 10 µl in just 5 minutes with excellent yields**. During the 20-fold concentration step, in contrast to other methods like evaporation, undesired contaminants, such as salt ions, detergents, enzymes, DNases, RNases and solvents, are proportionately depleted. The resulting highly concentrated DNA sample exhibits increased stability and better performance in downstream applications than untreated samples.

The ReDUCE principle

ReDUCE DNA Concentrators contain negatively charged super-absorbing polymer beads (SAPB). The polymeric structure of these beads swells when in contact with aqueous solutions. While swelling, the beads take up water and small molecules while negatively charged DNA or RNA remain in the liquid. The result is selective concentration of nucleic acids. Due to the polymeric structure, the SAPBs exert a size exclusion effect during nucleic acid concentration. The beads deplete small molecules such as PCR inhibitors and, due to specific surface modifications, immobilize DNases and RNases and suppress their enzymatic activities.

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