

Quick-Precip™ Solution

Product	Catalog #	Size
Quick-Precip Solution	14201	1 ml

Description

Quick-Precip Solution is a proprietary, biologically inert product. It is a carrier used for the rapid precipitation of DNA, RNA and oligomers >16 bases. Precipitation of DNA by the Quick-Precip Solution is moderately volume dependent. It is not affected by the presence of additives frequently found in enzymatic reactions (e.g. polyethylene glycol, glycerol) or residual organic solvents used for the extraction of proteins.

Because Quick-Precip Solution is biologically inert, DNA or RNA precipitated with the Quick-Precip Solution can be used for hybridization, cloning, preparation of libraries (including eukaryotic expression libraries) and DNA amplification with the polymerase chain reaction. It is particularly useful when >90% recovery of small quantities of nucleic acid polymers is desired. Rapid precipitation of DNA with this biologically inert carrier can facilitate the optimization of yields from ligation and transformation reactions used in cloning and library preparation.

Component	Part No.	Amount
Quick-Precip Solution	4050032	1 ml

Equipment and Materials Required

1. Microcentrifuge capable of reaching $\geq 10,000 \times g$.
2. Ethanol
3. 3 M Sodium acetate (pH 5.2)

Storage and Stability Conditions

Store at +4°C. Product is stable for 6 months when stored under these conditions. For longer storage, keep at -20°C. DO NOT store at room temperature. Product performance will degrade with extended storage at room temperature.

Quality Control

Tested for functionality by evaluation of DNA recovery.

Recommended Protocol

1. **Remove excess protein by extraction with phenol or Advamax™ Beads (Cat. No. 11393).**
2. **Add 0.1 volumes of 3 M sodium acetate (pH 5.2)¹.**
3. **Add 1 - 2 μ l of Quick-Precip Solution:**
 - Use 1 μ l for volumes $\leq 100 \mu$ l.
 - Use 2 μ l for volumes of 100 μ l - 2 ml.
 - Use 0.001 volumes for >2 ml.
4. **Add 2 – 3 volumes of ethanol.**
5. **Centrifuge 2 – 3 minutes, maximum speed at room temperature².**
 - DNA and RNA: Better than 99% can be achieved in 2 min, but for volumes $\geq 500 \mu$ l, spin for 3 min.
 - Oligomers: Better than 95% can be achieved in 3 min for oligomers (>16 bases), but for volumes $\geq 500 \mu$ l, spin for 5 min.
6. **[Optional for most DNA and RNA] Vortex vigorously and centrifuge again for 30 seconds.**
 - Essential for optimum recovery of oligomers.
7. **Decant fluid and rinse tube with 70% ethanol.**
8. **When resuspending the precipitated DNA, it may be necessary to rinse the sides of the tube to ensure complete recovery³. A vigorous spin on a vortex mixer is usually sufficient.**

Notes

1. Sodium chloride (0.1 vol of 5 M) may also be used. Ammonium acetate (0.3 vol of 7.5 M) is an effective salt for the precipitation of RNA and dsDNA but not oligomers.
2. The length of the spin is dependent upon the material being precipitated, the amount of Quick-Precip Solution and the efficiency desired. The above precipitation protocol has been optimized for microcentrifuge-based applications with $x g$ forces in excess of 12,000. Most fixed angle microcentrifuges routinely achieve these $x g$ forces.
3. DNA preparations that are contaminated with protein (most notably minipreps) have a tendency to form a film rather than a pellet. If there is a chance that your sample contains protein, vortex the sample to displace precipitate from the side or rinse the sides of tube when resuspending the pellet. Pellets formed with excessively protein-contaminated material are difficult to solubilize.

Warning: This product is intended for **research use only**. It is not to be used for diagnostic purposes in humans or animals.