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Sodium acetate buffer solution, 3 M, pH 5.2

For precipitation of nucleic acids
(Catalogue number P053 rev. 01/2022

Description

Sodium acetate buffer solution, 3 M, pH 5.2, is of Molecular Biology Grade prepared, filter-sterilized and autoclaved. It is suitable for ethanol or isopropanol precipitation of nucleic acids.

Technical data

Components and packaging

- 3M Sodium acetate buffer solution, 3 M, pH 5.2 is supplied in plastic flasks containing 100 ml of the solution.

Storage and Stability.

- At room temperature (15 -25°C). The product is stable until the expiration date printed on the flask label.

Composition

- 3 M Sodium acetate buffer solution, pH 5.2 ± 0.1 at 22°C. It is prepared with Sodium acetate of Molecular Biology Grade and PCR Ultra H_2O (Cat. No. P040).

Quality control

- Each batch of Sodium acetate buffer solution, 3 M, pH 5.2 is tested for nucleic acid precipitation and nuclease activity. Economy DNA marker (Cat. No. D071; 5 µl) is mixed with 0.2 ml 10 mM Tris buffer, pH 8.0 + 1 mM EDTA (Cat. No. P055), 1 µl Carrier-ACRYL (Cat. No. C081), 20 µl of Sodium acetate, 3 M, pH 5.2, and 0.6 ml of 96% Ethanol (Cat. No. P054). After 30 min incubation at -20 ± 5°C the mixture is centrifuged for 15 min at 12,000 x g, sediemnt is washed with 75% Ethanol, dissolved in PCR H_2O and analyzed by electrophoresis in agarose gel with ethidium bromide. Economy DNA marker without precipitation is analyzed in paralel on the same gel. More than 90% of all components of the DNA marker is recovered in the precipitate.

Cat. No.	Product name and specification	Amount
P053	Sodium acetate buffer solution, 3M, pH 5.2	100 ml

Protocol for precipitation of nucleic acids

Equipment and reagents required but not provided

- Microcentrifuge (12.000 x g)
- Carrier-ACRYL (Cat. No. C081)
- Ethanol, 96%, Mol. Biol. Grade (Cat. No. P054)
- Ethanol, 75%, Mol. Biol. Grade (Cat. No. P044)
- 10 mM Tris-HCl + 1 mM EDTA buffer, pH 8.0, prepared by 100x dilution from Tris-EDTA buffer solution (Cat. No. P055)
- PCR Ultra H_2O (Cat. No. P040) or PCR H_2O (Cat. No. P442)

Procedure

1. To a maximum of 400 µl of RNA or DNA sample in a 1.5 ml tube add 1 µl of Carrier-ACRYL (~25 µg).
2. Add 0.1 volume of Sodium acetate buffer, 3 M, pH 5.2.
3. Add 2.5 – 3.0 x sample volume of 96% ethanol.

Example reagent volumes

DNA/RNA sample	Carrier-ACRYL	Sodium acetate buffer solution, 3 M, pH 5.2	Ethanol 96%
200 µl	1 µl	20 µl	600 µl

4. Vortex the mixture briefly (2 sec) and allow to stand for at least 30 min at -20°C.
5. Centrifuge the tubes for 15 min at 4°C in a microcentrifuge at maximum speed (12,000 x g).
6. Carefully remove the supernatant and add 200 µl 75% ethanol.
7. Centrifuge for 2 min and carefully remove supernatant.
8. Air-dry the pellet for 15 min.
9. Dissolve RNA or DNA in 10 mM Tris-HCl + 1 mM EDTA buffer, pH 8.0, PCR Ultra H_2O, or PCR H_2O.