

Tissue Fixation Solution / 4% Paraformaldehyde (without DEPC)

SKU	Products	100 mL	500 mL	1000 mL	Storage
AGEL3553	Tissue Fixation Solution / 4% Paraformaldehyde (without DEPC)	100 mL	500 mL	500 mL×2	-20°C

Introduction

A 4% paraformaldehyde tissue fixation solution is commonly employed for the fixation of tissues, tissue slices, cells, and other biological samples in techniques such as immunohistochemistry (IHC), immunofluorescence (IF), and flow cytometry (FCM). This solution is prepared in PBS (phosphate-buffered saline) and is ready for immediate use without dilution. For applications requiring a lower concentration of paraformaldehyde, PBS can be used as a diluent. The 4% paraformaldehyde solution provides excellent penetration and fixation, resulting in tissue hardening, which facilitates slicing. It minimizes tissue shrinkage and damage, thereby preserving the inherent substances and maintaining the antigenicity and fine structure of the tissue. Additionally, it is effective for fixing and preserving fats and lipid substances.

This product provides an excellent fixation effect and has broad applications. It is suitable for fixing a variety of common cells and tissues, including skin, muscle, and internal organs. While it primarily acts on proteins, it is not effective for fixing uric acid and sugars.

This product is DEPC-free and is not recommended for in situ hybridization or other experiments that require nucleic acid detection.

For optimal results, it is recommended to use 1 mL of fixation solution per sample.

Experimental Procedure

1. For Cell Samples

- 1) Remove the culture medium, add 1 mL 4% Paraformaldehyde tissue fixation solution to one well of each six-well plate.
- 2) For other cell samples such as cell smears, add an appropriate amount of 4% Paraformaldehyde tissue fixation solution to cover the sample fully.
- 3) It is recommended to fix at room temperature for 10~20 min or a longer incubation may be required from 1h to 2h.
- 4) Wash the cells to remove residual paraformaldehyde.

2. For Tissue Slices

- 1) Add 4% Paraformaldehyde tissue fixation solution to cover the slice fully.
- 2) It is recommended to fix at room temperature for 10~20 min, however, further fixation from 1h to 2h may be required for thicker tissue slices.
- 3) Wash the slices to remove residual paraformaldehyde.

3. For Tissue Block Samples

1. Immerse the tissue in a 4% paraformaldehyde tissue fixation solution and fix it at room temperature or at 4°C for 2 to 24 hours.
2. Transfer the tissue to a centrifuge tube with distilled water for cleaning, changing the water every 15 to 30 minutes for a total of 6 to 8 times.
3. It is recommended to rinse the tissue with a shaker or with running water for 1 to 2 hours.
4. Perform gradient dehydration and embedding.

Tip: If the tissue is not to be prepared as paraffin embedded tissue in time, please store the tissue in 70~75% alcohol.

Store at -20°C for 12 months.

Cautions

1. If the product is stored for a long time, the aldehyde group may be oxidized to acid, which will reduce the pH of the solution, thus will affect the subsequent staining.
2. Different cell or tissue samples need different fixation times. The fixation time should be adjusted according to the type of cell or tissue and the size of tissue block.
3. Although the effect of 4% Paraformaldehyde tissue fixation solution is mild, it may harden the tissue. If the fixation time is too long, the tissue will become brittle and fragile. Therefore, the fixed time should not exceed 24 hours.
4. Polyoxymethylene can exist in fixed cells or tissue samples for a long time. There will still be residues after washing with appropriate detergent or water for several hours. Therefore, the subsequent experimental results are easily affected by aldehyde group, and the residual polyoxymethylene must be washed away as much as possible.
5. 4% Paraformaldehyde tissue fixation solution fix the cells or tissue samples need to be repaired before immunostaining or other subsequent operations.
6. This product is harmful to the human body. Please be careful during operation and pay attention to effective protection to avoid direct contact with the human body or inhalation.
7. This product couldn't be used for clinical diagnosis or treatment, food or medicine, and can't be stored in residence.
8. For your safety and health, please wear a lab coat and disposable gloves before the experiments.