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Version 1

3.7% Paraformaldehyde solution V.1

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Optical Clearing of Tissue



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Protocol status: Working

We use this protocol and it's working

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Abstract

Protocol for preparing a 3.7% Paraformaldehyde (PFA) solution. 3.7% PFA solution can be used to fix tissues.

Materials

MATERIALS

 Paraformaldehyde powder

 DPBS

 NaOH

 HCl

Equipment:

- Hot plate with a magnetic stirrer
- Thermometer
- Glassware

Troubleshooting

Safety warnings



- ❗ Formaldehyde is toxic. Please refer to the SDS (Safety Data Sheet) for detailed safety warnings and hazard information.

Before start

Safety information


Formaldehyde is toxic. Please be sure to work under a ventilated fume hood and wear gloves and safety glasses.



- 1 For  1 L 3.7% Formaldehyde , add  800 mL 1X DPBS to a glass beaker on a stir plate.

Safety information

Be sure to work under a ventilated fume hood.

- 2 Heat while stirring to approximately  55 °C .

- 3 Add  37 g paraformaldehyde powder to the heated DPBS solution.

- 4 Keep stirring until all PFA powder is dissolved.


Note


Take care that the solution does not boil to prevent formic acid formation.

Note

For better dissolubility of PFA, you can add NaOH -- one drop at the time.

- 5 Once all PFA powder is dissolved, adjust the pH to  7.4 using HCl.

- 6 Add DPBS subsequently until the total volume of  1 L is reached.

- 7 Transfer the solution into tubes of the desired proportions and store at  -20 °C until use.

