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Karnovsky's Modified Fixative

Mason

Mark Ellisman^{1,2}, Marianne Martone¹ Mackey¹,

¹National Center for Microscopy and Imaging Research, University of California, San Diego, La Jolla CA;

²Department of Neurosciences, University of California, San Diego, La Iolla CA

NCMIR@UCSD



NCMIR

University of California, San Diego

ABSTRACT

Fixative for mice and rat tissues to be used during perfusion and immersion fixation.

GUIDELINES

Preparing Fix solution (2% paraformaldehyde and 2.5% glutaraldehyde)

For 100 mL of 2% paraformaldehyde and 2.5% glutaraldehyde in 0.15M cacodylate buffer solution at 7.4 pH.

MATERIALS

- 100mL Erlenmeyer flask
- 100mL graduated cylinder
- #1 Whatman filter
- Paraformaldehyde PRILLS (Catalog no. 19202)
- Glutaraldehyde EMS (Catalog no. 16220)
- Sodium Cacodylate buffer TED PELLA, INC. (Catalog no. 18851)
- Stir bar

SAFETY WARNINGS

Always wear appropriate PPE.

OPEN ACCESS

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BEFORE START INSTRUCTIONS

Make sure heating plate for dissolving paraformaldehyde is between 60-70° C.

1 Add 2.0 grams paraformaldehyde to a 100mL Erlenmeyer flask. 2 Add 35mL of DDH₂O to 100mL to a Erlenmeyer flask. 3 Heat paraformal dehyde in DDH $_2$ O to 60-70°C. Use stir bar to mix. 4 Add 2-3 drops 1N NaOH. 5 Filter solution with #1 Whatman filter into a 100mL graduated cylinder. 6 Add 10.0 ml of 25% glutaraldehyde. 7 Dilute with DDH2O to a total volume 49.0 ml. 8 Add 1.0 ml of 0.204 M CaCl2-2H₂O. 9 Add 50 ml 0.3M cacodylate buffer stock solution at pH 7.4.

- 10 Volume should be 100 ml. Transfer fixative into a 100mL Erlenmeyer flask.
- 11 Keep in bath water 35°C.