FD Luxol Fast Blue Solution

(Cat. #: PS109)

FD luxol fast blue solution is made for the staining of myelin sheaths in the central nervous system. This solution may be used with frozen or paraffin-embedded sections, preferably formaldehyde-fixed tissues. The following procedure has been proven to produce excellent staining on sections from both animal and postmortem human brains. However, variations in tissues and tissue preparation may require that the duration of steps 2, 5 & 6 (cf. below) be shortened or lengthened to obtain the best results. The staining procedure takes approximately 90 minutes and should be carried out at room temperature except where indicated.

Staining Procedure:

1. Place slides in xylene, 2 changes, 3 minutes each. Place in 100% ethanol, 2 changes, 3 minutes each. Place in 95% ethanol for 3 minutes. Place in 75% ethanol for 3 minutes, then rinse in distilled water, 2 changes, 3 minutes each.
2. Place slides in FD luxol fast blue solution in a plastic coplin jar and microwave at the lowest power setting for 1 minute. Care should be taken not to boil the solution. Allow the slides to remain in the hot solution for additional 20-30 minutes depending on the desired intensity.
   Note: *This step may be prolonged to increase the staining intensity or repeated if differentiation (steps 5 & 6) has been excessive.*
3. Rinse in tap water, 2 times, 3 minutes each.
   Note: *Slides may be kept in tap water before the next step.*
4. Briefly rinse in distilled water, 3 dips.
5. Differentiate sections in 0.05% lithium carbonate, 5-10 dips, depending on the desired intensity.
   Note*: 0.05% lithium carbonate solution should be prepared freshly and be replaced frequently.*
6. Continue differentiation in 70% ethanol (replace when becoming green), 5-10 dips depending on the desired intensity.
   Note*: Steps 4-6 may be repeated until the greenish-blue of the white matter contrasts sharply with the colorless gray matter.*
7. Rinse in distilled water, 2 changes, 2 minutes each.
8. Counterstain in cresyl violet solution (optional).
9. Dehydrate in 100% ethanol, 4 changes, 2 minutes each.
10. Clear in xylene or xylene substitutes, 3 changes, 3 minutes each.
11. Coverslip in resinous mounting medium (e.g. Permount®).

Results:

Myelin sheath stains blue and nuclei and Nissl substances are violet if counterstained.

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Warning: Xylene, ethanol and FD luxol fast blue solution are harmful or toxic if ingested or inhaled. These liquids are highly flammable. Keep away from heat, sparks, and flame. Perform the experiment under a chemical hood. Avoid contact with skin and eyes. Wear suitable gloves and eye/face protection while doing the experiment.

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