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Anatomy

300 lvl

ANA 304

1. A staining technique used for identifying RNA and DNA in peripheral neurons is Acridine Orange.

2. Lysol Fast Blue stain is not used to detect demyelination in PNS.

A procedure employed in the demonstration of demyelination in the PNS is Adams's OTAN Method for normal and degenerating Myelin.

The abbreviation is for osmium tetroxide and alpha-naphthylamine. The technique is applied to cryostat sections, ideally after calcium-formaldehyde fixation.

Solutions Needed

A. Osmium Tetroxide-Potassium Chlorate. This is made up as required and used only once.

Osmium tetroxide, 2% stock solution in water: 5 mL

Potassium chlorate (KClO₃), 1% stock solution in water: 30 mL

Water: 5 mL

B. Saturated -Naphthylamine Solution. Dissolve a few crystals of -naphthylamine in 40 mL of water at 40°C.

Filter. This solution is used at 37°C

Procedure

1. Treat the sections with osmium tetroxide-potassium chlorate (Solution A) overnight at room temperature, in a tightly closed glass container.
2. Wash the sections for 10 min in water (3 changes with occasional agitation).
3. Treat the sections with saturated -naphthylamine solution (B) for 20 min at 37°C.
4. Wash the sections for 5 min in water (3 changes with occasional agitation).
5. Apply coverslips, using an aqueous mounting medium.

Result

Normal myelin is brownish–orange. Degenerating myelin (late products only) is black. Fat, if present in the tissue, is also blackened.