

Masson trichrome technique (1929)**Fixation**

Formal sublimate or formal saline.

Sections

All types.

Solutions

- | | |
|-------------------------|---------------------|
| a. Acid fuchsin | 0.5 g |
| Glacial acetic acid | 0.5 cm ³ |
| Distilled water | 100 cm ³ |
| b. Phosphomolybdic acid | 1.0 g |
| Distilled water | 100 cm ³ |
| c. Methyl blue | 2.0 g |
| Glacial acetic acid | 2.5 cm ³ |
| Distilled water | 100 cm ³ |

Method

1. Dewax sections and bring to water.
2. Remove mercury pigment by iodine, thiosulphate sequence.
3. Wash in tap water.
4. Stain nuclei by the celestin blue-haemalum method.
5. Differentiate with 1 per cent acid alcohol.
6. Wash well in tap water.
7. Stain in acid fuchsin solution (a), 5 minutes.
8. Rinse in distilled water.
9. Treat with phosphomolybdic acid (b) solution 5 minutes.

10. Drain.

11. Stain with methyl blue solution (c) for 2 to 5 minutes.

12. Rinse in distilled water.

13. Treat with 1 per cent acetic acid 2 minutes.

14. Dehydrate through alcohols.

15. Clear in xylene, mount in DPX.

ResultsNuclei — *blue-black*Cytoplasm, muscle and erythrocytes — *red*Collagen — *blue:green***Notes**

- a. The celestin blue-haemalum sequence provides a very satisfactory alternative to the iron alum haematoxylin used in the original method.
- b. Light green may be substituted for methyl blue.

Heidenhain's 'Azan'

Due to prolonged staining times the 'Azan' technique is not recommended as a general connective tissue method. In the demonstration of 'wire loop lesions', in the diagnosis of lupus nephritis in renal biopsies, the method may be found useful.

Table 8.2 Connective tissue stains and their reactions

| Tissue | van Gieson | Masson Trichrome | M.S.B. | P.T.A.H. | P.A.S. | Reticulum silver | Methenamine silver | Alcian blue | Reticular stain | Stain procedure | Heidenhain's Azan |
|--------------------|------------|------------------|----------|--------------|-------------------|-------------------|--------------------|-------------|-----------------|-----------------|-------------------|
| Muscle | Yellow | Red | Red | Blue | Pale pink | Pale grey | Pale grey | — | — | — | Deep pink |
| Collagen | Red | Blue green | Blue | Orange red | Pale pink | Pale grey | Unstained | — | — | — | Deep pink |
| Elastin | Yellow | Pale red | Blue | Orange brown | Unstained | Unstained | Unstained | — | — | — | Pink |
| Reticulin | Yellow | Blue green | Blue | Orange brown | Pink | Black | Unstained | — | — | — | Unstained |
| Basement membranes | Yellow | Blue green | Blue | Orange | Magenta | Pale grey | Black | — | — | — | Pink |
| Glycoid | Red | Blue green | Blue | Orange red | Pale pink | Pale grey | Unstained | — | — | — | Deep pink |
| Cartilage | Variable | Variable | Variable | Variable | Pink | Variable | Variable | — | — | — | Purple |
| Fibrin | Yellow | Red | Red | Blue | Unstained or pink | Unstained or grey | Unstained | — | — | — | Pink |