**Mallory’s Muscle Fiber Stain**

**Description:** This staining technique can reveal [collagen](http://en.wikipedia.org/wiki/Collagen), ordinary [cytoplasm](http://en.wikipedia.org/wiki/Cytoplasm), and [red blood cells](http://en.wikipedia.org/wiki/Red_blood_cell). It can also assist in examining the collagen of connective tissue. This protocol is a modification to focus on muscle cells and does not contain the aniline blue or phosphotungstic acid step.

**Fixative:** 10% Neutral buffered formalin or Bouin’s fixative. Saturated picric acid or mercuric chloride fixation may also be used.

**Sectioning:** 5µm paraffix sections

**Solutions:**

Mayer’s haematoxylin (See hematoxylin & eosin solution protocol sheet for recipe)

Acid fuchsin solution

Acid fuchsin ------------ 1g

Distilled water --------- 100mL

**Protocol:**

1. Dewax in Xylene – 2 mins
2. Dewax in Xylene – 2 mins
3. Wash in Absolute Alcohol – 2 mins
4. Wash in Absolute Alcohol – 2 mins
5. Wash in 90% Alcohol – 2 mins
6. Wash in 70% Alcohol – 2 mins
7. Wash in Running Water – 2 mins
8. Stain in Mayer’s haematoxylin – 2-3 mins
9. Wash in running water – 2 mins
10. Acid fuchsin solution - 1 - 5 mins
11. Wash in 70% Alcohol – 2 mins
12. Wash in 99% Alcohol – 2 mins
13. Wash in Absolute Alcohol – 2 mins
14. Wash in Absolute Alcohol – 2 mins
15. Clear in Xylene – 2 mins
16. Clear in Xylene – 2 mins
17. Clear in Xylene – 2 mins
18. Mount slides with coverslips using DePeX

Results:

Nuclei --------- Red

Muscle -------- Red

Similar to Masson’s Trichrome stain, the additional use of phosphomolybdic acid or phosphotungstic acid, and aniline blue solution can help stain collagen blue, and red blood cells orange (please refer to Masson’s trichrome protocol sheet).