

# Instructions for use



## Elastica Van Gieson Staining Kit

8275

### Triple staining for differentiated visualisation of connective tissue and elastic tissue components

#### Method

This staining method is a combined Elastica Staining acc. to Weigert and Van Gieson Trichrome Staining. It allows a good overview of the different tissue structures, especially the connective tissue and the elastic fibers (elastin fibers).

*Resorcinol fuchsine according to Weigert* is a finely dispersed dye which is present in an alcoholic, strongly acidic solution. It binds especially to elastic fibers.

*Van Gieson's solution* (picrofuchsin) is used for differentiated staining of cytoplasm, connective tissue and musculature. The solution contains two dyes with very different properties: The fine-particle picric acid infiltrates quickly all structures of tissue by staining them yellow. The coarse-particle acid fuchsine can stain only the coarse structures of collagen connective tissue during the short residence time. There the picric acid is overstained red. If the exposure time is extended, the picric acid may be overstained in other tissue structures, too (progressive staining).

*Important note:* After staining remove the picric acid as completely as possible from collagen connective tissue for tissue stained with acid fuchsine tends to fade out when being exposed to acids and bases. The procedure demands some skill for you have to stop rinsing before the picric acid is also removed from the other tissue structures (in that case the tissue becomes reddish).

The nuclei are stained with *Weigert's iron hematoxylin solution* (mixture of Hematoxylin solution A and B). The solution is acid resistant and, therefore, resistant against picric acid.

#### Kit contains:

- **Hematoxylin solution A acc. to Weigert** (Art. No. X906.1) 500 ml  
⚠ ⚠ Danger H225-H319-336
- **Hematoxylin solution B acc. to Weigert** (Art. No. X907.1) 500 ml  
⚠ Danger H290-H318
- **Van Gieson's solution** (Art. No. 3925.1) 500 ml
- **Resorcinol-Fuchsine solution acc. to Weigert** (Art. No. X877.1) 500 ml  
⚠ ⚠ ⚠ ⚠ Danger H225-H290-H302+H312+H332-H318-H336-H370

*The staining solutions should be filtrated before use! Solutions may be bought separately.*

**Instruction\*:**

1. De-wax and rehydrate sections (descending alcohol series finishing off with ethanol 80 %).	9. Rinse with distilled water to avoid precipitation of hematein.
2. Stain with resorcinol fuchsine solution. 20-30 min	10. Blue in flowing tap water. 10 min
3. Rinse with tap water until stain fades.	11. Stain with van Gieson's solution. 1-3-min
4. Rinse with distilled water.	12. Rinse shortly with ethanol 70% and ethanol 96%. <i>Caution, picric acid is especially soluble in diluted ethanol!</i>
5. Differentiate with ethanol 80%.	13. Dehydrate and rinse with ethanol 96%, finish with 2 x ethanol 100%.
6. Rinse with distilled water to interrupt the differentiation.	14. Clear with clearing agent.
7. <i>Examine by microscope:</i> Elastic fibres dark violet, background light rose.	15. Mount with appropriate mounting medium.
8. Stain with iron hematoxylin solution acc. to Weigert (Mix solution A + B at a ratio of 1:1, solution stable for 8 days at room temp.). 2-3 min	<b>Please note at step 13:</b> <i>Rinse moderately with highly concentrated ethanol to remove the picric acid from the connective tissue and, therefore, avoid fading of the staining. Caution: If the rinsing is too intensive the tissue becomes reddish!</i>

\*Acc. to Romeis, Mikroskopische Technik, 18. Auflage, Spektrum Akademischer Verlag (2010)

**Result:**

- Elastic fibres: dark violet
- Cell nuclei: dark blue/dark brown
- Collagene fibres: red
- Muscle, cytoplasm: yellow

**Please note:**

The color intensity depends on the pre-treatment and the composition of the samples to be stained. It may initially be necessary to adapt the method to the respective conditions.

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