

# Van Gieson Stain

For In-Vitro Diagnostics

For Professional Use only

Van Gieson's stain is a picric acid and acid fuchsin mixture used in the differential staining of collagen and other connective tissue. It is also used as a counterstain for other methods such as the Vefhoeff elastic technic.

## Sample Preparation

Any well-fixed tissue may be used.

## Mode of Action

In a strongly acidic solution provided by picric acid, collagen is selectively stained with acid fuchsin. The picric acid stains the muscle and cytoplasm. Low pH is important to ensure selective staining of collagen.

## Warnings and Precautions

Please consult the SDS and packaging labels before use.

### Van Gieson Stain



May cause an allergic skin reaction

| Chemical     | CAS       | Conc    |
|--------------|-----------|---------|
| Picric Acid  | 88-89-1   | 1-10%   |
| Acid Fuchsin | 3244-88-0 | <0.1%   |
| Water        | 7732-18-5 | Balance |

### Weigert Iron Haematoxylin Part A



Causes serious eye irritation; highly flammable liquid and vapour

| Chemical     | CAS      | Conc    |
|--------------|----------|---------|
| Haematoxylin | 517-28-2 | <1%     |
| Ethanol      | 64-17-5  | Balance |

### Weigert Iron Haematoxylin Part B



May be corrosive to metals; causes serious eye irritation

| Chemical            | CAS       | Conc    |
|---------------------|-----------|---------|
| Iron (III) Chloride | 7705-08-0 | 1-10%   |
| Hydrochloric Acid   | 7647-01-0 | 1-10%   |
| Water               | 7732-18-5 | Balance |

## Specifications

### Van Gieson Stain

Appearance Clear Orange Brown Liquid  
pH @ 25°C 1 to 2  
Absorbance ( $\lambda$  max) Approx 544nm

### Weigert's Haematoxylin Part A

Appearance Clear Reddish Brown Liquid with alcoholic odor  
Density@ 20°C 0.79-0.80 g/cm<sup>3</sup>

### Weigert's Haematoxylin Part B

Appearance Clear Pale Yellow Liquid  
pH @20°C 0.7 to 1.5  
Density @ 20°C 1.00 to 1.01 g/cm<sup>3</sup>

## Stability

The expiry date of each reagent is printed on the label. Store at room temperature in a sealed container away from heat and light.

## Technical Procedure

All solutions are ready to use.

1. Make a working solution of Weighert's Iron Haematoxylin by mixing equal parts of Part A and Part B. Discard this solution after use;
2. Deparaffinise sections and hydrate to distilled/deionised water;
3. Stain sections with the Weigert's Iron Haematoxylin working solution for 10 to 20 minutes. Sections should be overstained as they will be slightly decolourised by the picric acid in the Van Gieson's stain;
4. Wash in running water for 10 minutes;
5. Stain sections in van Gieson's stain for 5 minutes. Discard the solution;
6. Place slides in 95% alcohol;
7. Dehydrate as normal, clear with xylene and mount with a synthetic resin.

## Results and Interpretation

Only experienced and suitably qualified persons should carry out interpretation of stained slides.

|                      |               |
|----------------------|---------------|
| Nuclei               | Blue-Black    |
| Collagen             | Brilliant Red |
| Muscle and Cytoplasm | Yellow        |



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## Notes

1. Iron Haematoxylin used for nuclear staining is more resistant than aluminium haematoxylin to decolorisation in acidic dye solutions;
2. Avoid washing in water after application of van Gieson's stain as the colour balance will be impaired;
3. If inadequate colour differentiation is not obtained between collagen and muscle, addition of 0.25mL of hydrochloric acid to 100mL of van Gieson's stain may sharpen the colour differentiation;
4. If the collagen stains pink to pale orange, this indicates that the picric acid used may not have been saturated.

## References

*Survana KS, Layton C, and Bancroft JD. Bancroft's Theory and Practice of Histological Techniques, 7<sup>th</sup> Ed. London, Churchill Livingstone, 2012*

*Sheehan, D.C. and Hrapchak B.B, Theory and Practice of Histotechnology, 2<sup>nd</sup> Edition; 1987, Battelle Press*

*Carson, Freida; Hladick, Christa; Histotechnology – A Self Instructional Text; 3<sup>rd</sup> Edition; American Society for Clinical Pathology Press 2009*

*Kiernan, J.A, Histological and Histochemical Methods, 4<sup>th</sup> Ed, Scion Publishing Ltd 2008*

## Ordering Information

| Code     | Product Name             | Size  |
|----------|--------------------------|-------|
| FNNFG062 | Van Gieson's Stain       | 500mL |
| FNNFG075 | Weigert's Haematoxylin A | 500mL |
| FNNFG076 | Weigert's Haematoxylin B | 500mL |