Hematoxylin Gills II

Intended use
Hematoxylin Gills II is used for nuclear staining in histology and cytology.

Summary
Gill Hematoxylin solutions are nuclear stains intended for use in Histology and Cytology. Hematoxylin Solutions, Gill Nos. 1, 2 and 3 are for "*In Vitro* Diagnostic Use". Hematoxylin Gills II (Double strength) is generally classified as progressive or regressive based on dye concentration. Progressive stains (e.g., Mayer's hematoxylin) have a lower concentration of dye and selectively stain nuclear chromatin. The desired intensity is a function of time. Regressive stains (e.g., Harris hematoxylin) color all nuclear and cytoplasmic structures intensely. To arrive at correct chromatic response, excess dye must be removed by treatment with dilute acid (differentiation).

Principle
Gill formulations No. 2 may be used as progressive or regressive stains depending on length of staining time. These hematoxylin solutions are manufactured as half-oxidized hematoxylin; mordanted with aluminum and stabilized with glycols. The positively charged aluminum-hematein complex combines with negatively charged phosphate groups of nuclear DNA forming the blue-purple color characteristic of hematoxylin stains.

Reagents / Contents

Certified hematoxylin	4 g/L,
Sodium iodate	0.4 g/L,
Aluminum sulfate	35.2 g/L, and stabilizers.

**Formula adjusted, standardized to suit performance parameters.

Appearance: Maroon purplish solution.

Storage and Stability
Store at 15°C-25°C away from bright light. Use before expiry date on label.

Materials required but not provided
Histochemical tissues sections obtained from biopsy specimens. Tissue section specimen on clean grease-free glass slide, staining rack, blotting paper, and microscope. Reagents and solutions required but not provided with this stain such as a series of percentage solutions of ethanol, 0.25% hydrochloric acid (HCl), Papanicolaou Stain Orange G (OG-6), Eosin (Aqu) 2%, EA 36/EA 65 (Eosin-Azure)
, xylene and DPX mount ant .

Procedure
1. Fix smears in 95% ethanol for more than 15 minutes.
2. Dip smears in 80% and 50% ethanol for 30 seconds each. Rinse with water gently.
3. Stain for 3-5 minutes with Hematoxylin Gills II.
4. Rinse with water for 1-2 minutes.
5. Differentiate in 0.25% hydrochloric acid (HCl) & 50% ethanol for about 6 times each for 1 minute.
6. Place in running water for 6 minutes.
7. Dip smears in 50%, 70%, 80% and 90% ethanol for 30 seconds each.
8. Stain for 1-4 minutes with Orange G (OG-6). OR

8. For Histology

Eosin Y Solution (Alcoholic), Or Acidified Eosin Y Solution (Aqueous), Or Eosin Y Solution (Alcoholic with Phloxine) for 30-60 seconds.
OR

8. For Cytology

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Papanicolaou Stain OG-6, and Papanicolaou Stain EA-50, Or Papanicolaou Stain EA-65, Or Papanicolaou Stain, Modified EA for 1-3 minutes.

9. Wash smears in 95% ethanol twice for 10-20 seconds each.
10. Stain for 2-5 minutes with EA-36/EA-65 (Eosin-Azure).
11. Wash smears in 95% ethanol thrice for 10-20 seconds each.
12. Dehydrate in 100% ethanol and then clear in xylene.
13. Mount with DPX and examine microscopically.

Interpretation of Results

Staining with	EA 36	EA 65
Cytoplasm cyanophilic (basophilic) eosinophilic (acidophilic) keratinized	 Blue-green to green Pink Pink-orange	 Blue-green Pink Pink-orange
Erythrocytes	Red	
Cell nuclei	Blue to dark violet	
Microorganisms	Grey-blue	

Warranty

This product is designed to perform as described on the label and pack insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

References

1. Natural Dyes. IN HJ Conn's Biological Stains, 9th ed., RD Lillie, Editor, Williams and Wilkens Co., Baltimore, MD, 1977, pp 468, 472.
2. Theory and Practice of Histotechnology, 2nd ed., DC Sheehan, BB Hrapchak, Editors, CV Mosby Co., St. Louis, MO, 1980.
3. Manual of Histologic Staining Methods of the Armed Forces Institute of Pathology, 3rd ed., LG Luna, Editor, McGraw Hill, New York, 1968.
4. Theory and Practice of Histological Techniques, Edited by Bancroft JD and Gamble, M, Churchill Livingstone,
   New York, 2002, p129.
5. Data on file: UltraCare Diagnostics .

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.

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