Haematoxylin (Ehrlich)

**Intended Use:**
Haematoxylin (Ehrlich) is used for nuclear stain for Immunohistochemical and cytochemical staining. It may also be used for the routine Hematoxylin and Eosin staining.

**Composition**

**Ingredients**
- Haematoxylin: 2.0gm
- Alcohol 95%: 100.0ml
- Glycerine: 100.0ml
- Aluminium potassium sulfate (Alum): 3.0gm
- Glacial acetic acid: 10.0ml
- Sodium iodate: 0.1gm
- Distilled water: 100.0ml

**Formula adjusted, standardized to suit performance parameters**

**Directions**

**A. Hematoxylin staining (H&E staining):**
1. Flame the slide and place in xylene for 3-4 minutes. Repeat xylene treatment with agitation.
2. Dip in 100% absolute alcohol for 30-60 seconds. Next dip in 90%, 80% and in 70% absolute alcohol. Wash in tap water and rinse in distilled water.
3. Stain tissue section or cell preparation for 2-5min. with hematoxylin (Ehrlich) (S059).
4. Rinse with water to remove excess reagent.
5. Place in 0.5%9V/V) Hydrochloric acid
6. Rinse in distilled water for 30-60 seconds
7. Dip in dilute ammonia water till section appears blue.
8. Wash in tap water and place slide in 95% alcohol for 30 sec.
9. Place eosin counter stain for 30-60 sec. Drain the solution
10. Dip slide in 70% alcohol for 30-60 seconds.
11. Place in 95% alcohol for 30-60 seconds.
12. Place in absolute alcohol (2 changes, 30-60 seconds each).
13. Place the slide twice in xylene for 30-60 seconds.
14. Drain excess xylene and mount on DPX or Canada balsam with a coverslip.

The first 2 steps of the procedure are collectively referred to in all staining procedures as ‘deparaffinize.’ Steps 3-9 are referred to as ‘staining’. The last 5 steps are referred to in all staining methods as ‘dehydrate, clear, and mount.’

**B. Hematoxylin Nuclear counter staining:**
1. Deparafinize the section.
2. Carry out the individual staining procedure (as desired).
3. Rinse the slide with deionized water.
4. Counter stain the tissue section with hematoxylin (Ehrlich) (S059) for 2-5 min.
5. Rinse with water to remove excess reagent.
6. Place in bluing reagent (alkaline solution such as a weak ammonia solution, 0.08% in water) until stain is blue (approximately 30 sec.).
7. Rinse in distilled water.
8. Section can be mounted in aqueous mounting media.

Please refer disclaimer Overleaf.
**Principle And Interpretation**

Hematoxylin is extracted from the heartwood of the logwood tree, *Hematoxylin campechianum*. Hematoxylin (Ehrlich) solution contains the dye, hematin and the Aluminum potassium sulfate as a mordant which provides the stain colour (blue) glacial acetic acid controls the pH of the solution. It can be used as nuclear counter stain (as in PAS staining etc.)

Hematoxylin (Ehrlich) reagent is suitable for immunohistochemical application. It is the slowest of progressive stains. For histochemical purposes, the progressive staining is commonly used in which dye selectively stains the nuclear chromatin without staining cytoplasmic structures. Slides are left in the hematoxylin solution only long enough to stain the nuclei. The excess dye should be removed by ‘blueing’ of the tissue. Initially the tissue sections are coloured either purple or reddish purple, on exposure to alkaline solution, the tissue section takes on the characteristic blue colour.

Hematoxylin-Eosin is the commonly used stain, which is specific for certain substances of diagnostic importance. Here, acid reacting components of the cell combine with alkaline dyes and the alkaline area react with acid dyes. The stain is available for amyloid, lipids, inorganic substances such as iron and calcium, pigments like melanin and hemosiderin, carbohydrates and mucopolysaccharides.

**Quality Control**

**Appearance**
Wine red coloured solution.

**Clarity**
Clear without any particles.

**Microscopic Examination**
Immunohistochemical / cytochemical staining is carried out and staining characteristic is observed under microscope.

**Results**
A) Haematoxylin Staining (H&E staining):
- Nuclei : Blue colour
- Cytoplasm : Pink colour

B) Haematoxylin Nuclear counter staining:
- Nuclei : Blue colour

**Reference**


Disclaimer:

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