



ENDURE® H&E Staining System

The **ENDURE® Staining System** is designed to produce precise, consistent H&E staining. Staining times in hematoxylin and eosin will depend on the use and the personal preference of the diagnosing physician. The following are guidelines that will help establish a custom protocol for your specific needs.

ENDURE® & ENDURE® XT Hematoxylin

ENDURE® Hematoxylin is a uniquely formulated, progressive Hematoxylin. When used in accordance with our staining guidelines will produce crisp, well delineated nuclear chromatin while eliminating background staining. **ENDURE® Hematoxylin** produces staining similar to Gill's and Harris Hematoxylin and has no affinity for mucin staining. **ENDURE® Hematoxylin** will not form a surface sheen or require daily filtering. However, small crystals may form in the bottom of the bottle. **ENDURE® Hematoxylin** contains aluminum salt mordents at their saturation point. These crystals will not interfere with the staining process. If you find these crystals troublesome, they can simply be filtered out. Recommended staining times in **ENDURE® Hematoxylin** range from 3 to 6 minutes and is an excellent nuclear stain for routine H&E staining, frozen sections and IHC. It does not contain mercury or alcohol. **ENDURE® XT Hematoxylin** is a darker version than **ENDURE® Hematoxylin**.

ENDURE® Clarifier

ENDURE® Clarifier is an aqueous clarifying agent designed to be used with **ENDURE® Hematoxylin** to produce cell transparency and remove any non-specific staining.

After hematoxylin staining, excess hematoxylin is rinsed from the tissue section and slides are exposed to **ENDURE® Clarifier** for 10-30 seconds. If more transparency is desired or if non-specific staining is present, the exposure time can be increased. **ENDURE® Clarifier** is supplied in a ready to use formulation.

ENDURE® Bluing

ENDURE® Bluing is a buffered bluing reagent with a pH of 8 to assure bluing of hematoxylin stained tissue sections. Suggested bluing time is 1 minute; after bluing, rinse tissue sections in running water for 1 minute or in 2 changes of deionized water. Excess bluing reagent must be completely removed prior to eosin staining. **ENDURE® Bluing** is supplied in a ready to use formulation.

ENDURE® Eosin

ENDURE® Eosin is an alcoholic eosin that allows for exceptional differentiation and contrast between cytoplasmic components and nuclei. **ENDURE® Eosin** stains cytoplasm various shades of pink and red. Prior to staining in **ENDURE® Eosin**, tissue sections should be rinsed in alcohol. The concentration of the alcohol rinse can range from 70% to 95%.

Staining time in **ENDURE® Eosin** depends on the use and personal preference of the diagnosing physician. The following are guidelines that will help establish a custom protocol for your specific needs. When staining routine hematoxylin and eosin sections, good results can be obtained with **ENDURE®**





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Eosin with a staining time of 30 to 90 seconds. A staining time of 30 seconds is recommended as an initial staining time, with an increase of 30 second intervals until desired color and density of the cytoplasm is achieved.

Recommended automated and manual histology staining procedure for **ENDURE® Hematoxylin & Eosin Staining System**.

| | |
|---|---------------|
| 1. Xylene | 3 minutes |
| 2. Xylene | 3 minutes |
| 3. Xylene | 3 minutes |
| 4. 100% Ethanol | 1 minute |
| 5. 100% Ethanol | 1 minute |
| 6. 100% Ethanol | 1 minute |
| 7. 80% Ethanol | 1 minute |
| 8. Running H2O Wash | 1 minute |
| 9. ENDURE® Hematoxylin or XT | 3-6 minutes |
| 10. Running H2O Wash | 1 minute |
| 11. ENDURE® Clarifier | 10-30 seconds |
| 12. Running H2O Wash | 1 minute |
| 13. ENDURE® Bluing | 1 minute |
| 14. Running H2O Wash | 1 minute |
| 15. 80% or 95% Ethanol | 30 seconds |
| 16. ENDURE® Eosin | 30-90 seconds |
| 17. 100% Ethanol | 1 minute |
| 18. 100% Ethanol | 1 minute |
| 19. 100% Ethanol | 1 minute |
| 20. Xylene* | 1 minute |
| 21. Xylene* | 1 minute |
| 22. Xylene* | 1 minute |
| 23. Mount and coverslip with CoverSeal® or similar medium. | |

***Zero Xylene™** or **ClearAway Citrus™** may be used in place of Xylene. Times in Xylene substitutes may need to be extended.





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- FROZEN SECTION STAINING PROCEDURE -

Frozen-Fix or similar Product: 2-3 Dips
Rinse in tap water : 4-5 dips

| Station | Solution | Time |
|---------|----------------------------------|-----------|
| 1. | ENDURE® Hematoxylin or XT | 5-6 dips |
| 2. | Rinse off excess stain | 5-10 dips |
| 3. | ENDURE® Bluing | 3-4 dips |
| 4. | Rinse in tap water | 3-4 dips |
| 5. | 95% Reagent Alcohol | 3-4 dips |
| 6. | ENDURE® Eosin | 1-2 dips |
| 7. | Rinse in tap water | 1-2 dips |
| 8. | 100% Reagent Alcohol | 1-2 dips |
| 9. | 100% Reagent Alcohol | 5-10 dips |
| 10. | 100% Reagent Alcohol | 5-10 dips |
| 11. | Xylene | 10 dips |
| 12. | Xylene | 10 dips |

Note: This procedure may not fit every situation. Modifications may be necessary.

