

**Artisan™  
Elastic Stain Kit****Code AR163****Intended use**

For In Vitro Diagnostic Use.

Elastic Stain Kit is intended for laboratory use to identify, by light microscopy, elastic fibers in tissue samples.<sup>1-2</sup> Routinely processed samples (paraffin-embedded) may be used. The preferred fixative is neutral buffered formalin. The clinical interpretation of any staining, or its absence, should be complemented by morphological studies and proper controls, and should be evaluated within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist. All reagents in the Elastic Stain Kit have been optimally prepared for use on Dako's Artisan Staining System and require no mixing or diluting.

**Summary and explanation**

The Elastic Stain Kit is used to identify elastin fibers. This procedure is based on the work of Verhoeff<sup>1</sup> and utilizes Alcoholic Hematoxylin, Ferric Chloride and Lugol's Iodine solutions to stain elastin fibers. Van Gieson's solution is added to differentiate collagen from elastin.

**Principle of procedure**

The Elastic Stain Kit is a modification of the original Verhoeff's<sup>2</sup> method. The Elastic Stain Kit is optimized for use on the Artisan Staining System. Wash steps follow all of the staining steps. Following staining, the air dried slides are removed from the instrument, cleared with xylene or xylene substitutes and mounted with appropriate mounting media. Results are interpreted using a standard light microscope.

**Control Tissue: Cross section of artery, appendix and skin.**

**Reagents provided**

The Elastic Stain Kit is composed of four ready-to-use dispenser packs, each one containing:

**Alcoholic Hematoxylin 5%****ALCOHOLIC  
HEMATOXYLIN 5%**

95% Alcohol, and 5% Hematoxylin

**Ferric Chloride 10%****FERRIC CHLORIDE 10%**

Ferric Chloride in deionized water

**Lugol's Iodine****LUGOL'S IODINE**

1% Iodine and 2% Potassium Iodide in deionized water

**Van Gieson's Solution****VAN GIESON'S SOLUTION**

0.1% Van Gieson's solution

Dako provides these reagents at optimal formulation for use according to the instructions provided for staining on prepared tissue sections. Any deviation from the recommended test procedures may invalidate declared expected results.

**Materials required, but not supplied**

1. Microscope slides
2. Artisan Staining System
3. Wash Solution (code AR102)

**Precautions**

1. For professional users.
2. Minimize microbial contamination of reagents or increase in nonspecific staining may occur.
3. Reagent packs may contain residual solution after completing the prescribed number of tests.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any changes made to the factory-released procedure.
5. Store reagent packs in an upright position when not in use on the instrument.
6. Keep reagent packs out of direct sunlight and away from heat-generating sources.
7. As a general rule, persons under 18 years of age are not allowed to work with this product. Users must be carefully instructed in the proper work procedures, the dangerous properties of the product and the necessary safety instructions. Please refer to Safety Data Sheet (SDS) for additional information.
8. Wear appropriate Personal Protective Equipment to avoid contact with eyes and skin.
9. Unused solution should be disposed of according to local, State and Federal regulations.
10. Safety Data Sheet available for professional users on request.



### Danger

**Alcoholic Hematoxylin, 5%:** 60-100% Ethanol, 1-5% Methanol, 1-5% Hematoxylin

H225 Highly flammable liquid and vapor.  
H302 Harmful if swallowed.  
H319 Causes serious eye irritation.  
H360 May damage fertility or the unborn child.  
H371 May cause damage to organs.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness and dizziness.  
H373 May cause damage to organs through prolonged or repeated exposure.  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P281 Use personal protective equipment as required.  
P280 Wear protective gloves. Wear eye or face protection.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P241 Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P233 Keep container tightly closed.  
P271 Use only outdoors or in a well-ventilated area.  
P260 Do not breathe vapor.  
P270 Do not eat, drink or smoke when using this product.  
P264 Wash hands thoroughly after handling.  
P314 Get medical attention if you feel unwell.  
P309 + P311 IF exposed or if you feel unwell: Call a POISON CENTER or physician.  
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical attention.  
P405 Store locked up.  
P403 Store in a well-ventilated place.  
P235 Keep cool.  
P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.



### Danger

**Ferric Chloride, 10%:** 5-10% Iron Trichloride

H314 Causes severe skin burns and eye damage.  
P280 Wear protective gloves. Wear eye or face protection. Wear protective clothing.  
P264 Wash hands thoroughly after handling.  
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.  
P301 + P310 + P330 + P331 IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.  
P310  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.  
P405 Store locked up.  
P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.



### Danger

**Lugol's Iodine:** 1-5% Potassium Iodide

H319 Causes serious eye irritation.  
H315 Causes skin irritation.  
H360 May damage the unborn child.  
H370 Causes damage to organs.  
H372 Causes damage to organs through prolonged or repeated exposure.

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P281	Use personal protective equipment as required.
P280	Wear protective gloves. Wear eye or face protection.
P260	Do not breathe vapor.
P270	Do not eat, drink or smoke when using this product.
P264	Wash hands thoroughly after handling.
P314	Get medical attention if you feel unwell.
P307 + P311	IF exposed: Call a POISON CENTER or physician.
P302 + P352 + P362-2 + P363	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.
P332 + P313	If skin irritation occurs: Get medical attention.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical attention.
P405	Store locked up.
P501	Dispose of contents and container in accordance with all local, regional, national and international regulations.



### Warning

**Van Gieson's Solution:** 1-5% 2,4,6-trinitrophenol

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
P280	Wear protective gloves. Wear eye or face protection.
P261	Avoid breathing vapor.
P264	Wash hands thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P302 + P352 + P362-2 + P363	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical attention.
P501	Dispose of contents and container in accordance with all local, regional, national and international regulations.

### Storage

Each component should be stored at the temperature indicated on the label. Do not use after expiration date. If reagents are stored under any conditions other than those specified, the conditions must be verified by the user. There are no obvious signs to indicate instability of this product. Therefore, appropriate tissue must be run as controls for such verification. If unexpected staining is observed which cannot be explained by variations in laboratory procedures or improper storage, contact Dako Technical Support.

### Instrument procedure / Staining procedure

#### Preliminary Comments

Please refer to the *Artisan Operator's Manual* for detailed instructions.

#### Priming Reagent Packs

Before beginning staining, reagent packs should be primed and checked for leakage. Check the prime of each reagent pack when a new kit is used and before the first staining run of the day.

1. Over a paper towel, if present, remove the red or black shipping cap from the dispense assembly of the reagent pack by gently pulling down on the cap.
2. To prime a reagent pack when it is first received, hold the reagent pack with the dispenser assembly pointed downward and lightly tap on the side of the reagent pack 2–3 times to release any air bubbles that may be trapped in the dispenser assembly.
3. Fully compress and release the plunger 3–4 times in rapid succession, taking care to absorb any expelled fluid into a paper towel, absorbent gauze, or similar material, until a steady stream is obtained.
4. Avoid dispensing excess amounts of reagent during priming. Excessive priming will result in reagent loss, which may cause the reagent pack to run out of fluid before the stated number of tests is performed.
5. Before each use, reagent packs may be primed 1–2 times, checking for a steady stream.
6. Holding the reagent pack in one hand, slide the mounting guide on the back of the reagent pack into the slots on the reagent carousel until the pack is completely seated.

#### Procedure

Refer to the *Procedure Reports* section in the Artisan Host Software for the recommended detailed procedure. After staining is complete, slides will be dry. Dip slides in xylene or xylene substitute and permanently mount.

### Staining Interpretation

Elastin fibers:.....	<b>Black</b>
Nuclei:.....	<b>Blue to black</b>
Collagen:.....	<b>Red</b>
Other tissue elements: .....	<b>Yellow</b>

## Performance characteristics

### Reproducibility

Intra-run reproducibility of 100% was determined by staining 12 slides containing the same control tissue on one instrument.

Inter-run reproducibility of 100% was determined by staining 12 slides containing the same control tissue on three different instruments.










## Troubleshooting

Refer to the Maintenance and Troubleshooting section of your *Artisan Operator's Manual* or contact our Technical Support.

## References

1. Bancroft JD, Stevens A. Theory and Practice of Histological Techniques, 4th edition, Churchill Livingstone Inc., New York, New York, 1996
2. Churukian CJ. Manual of the Special Stains Laboratory, Department of Pathology and Laboratory Medicine, University of Rochester Medical Center, Rochester, New York, 1997

## Explanation of symbols

 Catalogue number	 Temperature limitation	 In vitro diagnostic medical device
 Manufacturer	 Batch code	 Contains sufficient for <n> tests
 Use by	 Consult instructions for use	 Authorized representative in the European Community



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