Picrosirius Red Staining Kit

Catalog No.: RA20129

Basic Information

Product name	Picrosirius Red Staining Kit
Sizes	50 mL
Storage	2-8 ℃, keep away from light
Shipping	Shipped with ice pack
Validity	12 months

Product Introduction

Collagen fibers are the most widely distributed and abundant fibers in connective tissue, found extensively in various organs, especially in the skin, sclera, and tendons. Type I collagen is mainly found in bone, skin, and tendon fibers. Type II collagen is primarily located in cartilage. Type III collagen is mainly present in embryonic tissues and adult blood vessels and gastrointestinal tract. Type IV collagen is primarily found in the basement membrane. Both Picrosirius Red and its counterstain are strongly acidic dyes that bind firmly to basic groups in collagen molecules. Under polarized light microscopy, collagen fibers exhibit positive uniaxial birefringence. When combined with Picrosirius Red, this birefringence is enhanced, improving resolution and allowing differentiation between collagen types.

EnkiLife Picrosirius Red Staining Kit consists of Hematoxylin Staining Solution and Picrosirius Red Staining Solution. It is mainly used to study abnormal collagen fibers or fibrosis in various pathological tissues. Under a standard light microscope, collagen fibers in tissues such as heart and blood vessels are stained red. Under polarized light microscopy, it aids in the classification and grading of fibrotic lesions. Although immunohistochemistry can also be used to detect Type I and Type III collagen fibers, the antibodies are expensive and the procedure is time-consuming. In contrast, Picrosirius Red staining is cost-effective and simple to perform.

Product Components

Components	2x 50mL
Reagent (A): Hematoxylin Staining Solution	50 mL

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Reagent (B): Picrosirius Red Staining Solution	50 mL

Materials Required (Not Supplied)

1. 10% neutral buffered formalin (NBF), graded ethanol, eco-friendly dewaxing agent or xylene, neutral balsam.
2. Standard light microscope, polarized light microscope.

Experimental procedure

1. Fix tissue in 10% neutral buffered formalin, then dehydrate and embed routinely.
2. Cut sections at 3–8 μm. Dewax with xylene or eco-friendly dewaxing agent, and hydrate to water.
3. Apply hematoxylin staining solution for 3–10 min, then rinse with water for 30–120 s.
4. Apply Picrosirius Red staining solution for 10–60 min (10–20 min for tissues that stain easily).
5. Rinse briefly under running water to remove surface stain.
6. Dehydrate with 95% ethanol for 1 min, then absolute ethanol twice, 1 min each. Clear with xylene or eco-friendly clearing agent twice, 1 min each. Mount with neutral balsam. Examine under microscope.

Staining Results

Under Standard Light Microscopy	
Component	**Color**
Collagen fibers	Red
Muscle fibers, blood cells	Yellow
Nuclei	Blue-brown to black

Under Polarized Light Microscopy	
Component	**Color**
Type I collagen fibers	Strong orange-yellow or bright red
Muscle fibers, blood cells	Yellow

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Notes

1. For optimal visualization under polarized light, section thickness should be 6–7 μm.
2. Omitting hematoxylin staining will result in light red nuclei and improved contrast between collagen and muscle fibers.
3. Avoid prolonged treatment in low-concentration ethanol after Picrosirius Red staining, as the yellow color of muscle fibers may fade.
4. For your safety and health, wear a lab coat and disposable gloves during operation.

This product is for research use only!