

Weigert'S Elastic Fiber Staining Kit

Cat #: A-CSH319

Size: 5×50mL

Storage: 2~8°C, avoid light (6 months)

Product Composition

Component		5×50mL	Store at
Reagent (A): Weigert-oxidant	A1: Weigert oxidant A	25ml	10~30°C
	A2: Weigert oxidant B	25ml	10~30°C
Before use, mix equal amounts of A1 and A2 as Weigert oxidant, which should not be prepared in advance.			
Reagent (B): Weigert bleach		50ml	10~30°C
Reagent (C): Weigert resorcinone magenta staining solution		50ml	2~8°C, and were protected from light
Reagent (D): Acid differentiation solution		50ml	10~30°C
Reagent (E): the VG staining solution		50ml	10~30°C, and were protected from light

Product Description

Elastic fibers are mainly distributed in the arterial walls, alveolar walls, and skin of the human body. When fresh, they appear yellow and exhibit strong refractivity. Common staining methods for elastic fibers include Gomori's aldehyde fuchsin method, orcein method, Victoria blue method, and iron-hematoxylin method. The alkaline fuchsin staining solution, also known as Weigert's resorcin-fuchsin staining solution, is primarily used for staining elastic fibers. The staining principle of Van Gieson's collagen fiber staining method is related to the size of the anionic dye molecules and tissue permeability. PA has the smallest molecular weight, followed by Light Green and Acid Fuchsin, while Sirius Red has the largest molecular weight. After VG staining, muscle fibers appear yellow, and collagen fibers appear red. Elastic fiber staining can demonstrate changes in elastic fibers in skin tissue, such as elastofibroma, granuloma annulare, and

elastosis. It can also be used to observe and diagnose lesions in the endocardium and arteries, and to identify tumor tissue components such as elastofibroma. After elastic fiber staining, elastofibroma can be clearly observed within the tumor.

The modified Weigert's elastic fiber staining solution principle involves the formation of a Lake complex between resorcin-fuchsin and iron ions, with the free amino groups firmly bound to the hydrogen bonds within the elastic fibers, resulting in a black color. Compared to the conventional Weigert's resorcin-fuchsin elastic fiber staining, the modified method involves additional oxidation and bleaching steps, making it suitable for displaying various types of elastic fibers. It offers clearer staining, is less prone to fading, and has a longer preservation time than the traditional Weigert's resorcin-fuchsin method.

Usage

1. Fix the tissue in 10% formalin and perform routine dehydration and embedding.
2. Cut sections to a thickness of 4µm and dewax them in water.
3. Oxidize with prepared Weigert's oxidizing reagent for 5 minutes.
4. Rinse briefly with water.
5. Bleach with Weigert's bleaching reagent for 1-2 minutes.
6. Rinse with running water for 2 minutes.
7. Briefly rinse with 95% ethanol.
8. Place the sections in a staining dish containing Weigert's resorcin-fuchsin staining solution (covered) and stain at room temperature for 1-3 hours.
9. Differentiate with acidic differentiation solution until no more stain is removed, approximately 2-3 seconds.
10. Rinse with running water for 10 minutes.
11. Perform a counterstain with Van Gieson's staining solution for 30 seconds.
12. Rinse quickly with tap water, immediately differentiate and dehydrate with 95% ethanol.
13. Perform routine dehydration, clearing, and mount with neutral mounting medium

Staining Results

spandex	Blue to purple black
collagenous fiber	red
Myofibers and erythroid cells	yellow

Notes

1. If only mature elastic fibers need to be displayed, the oxidation and bleaching steps mentioned above can be omitted.
2. The acidic differentiation solution is primarily used to enhance the clarity of the background in the sections. Slightly longer differentiation time will not harm the staining.
3. For your safety and health, please wear laboratory attire and disposable gloves while performing the procedure.

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.