Masson'S Trichrome Staining Kit (Fast Green FCF Method)

Cat #: A-CSH275

Size: 7×50mL, 7×100mL

Storage: 10-30 °C, Avoid exposure to light (1 year)

Product Description

Component		7×50mL	7×100mL	Store at
Reagent (A): Weigert's iron hematoxylin staining solution	A1: Weigert's solution A	25ml	50ml	10-30 °C, Avoid exposure to light
	A2: Weigert's solution B	25ml	50ml	10-30 °C
Before use, mix equal amounts of A1 and A2 to form Weigert's iron hematoxylin staining solution. It is not recommended to prepare it in advance.				
Reagent (B): Acidic Ethanol Differentiation Solution		50ml	100ml	10-30 °C
Reagent (C): Masson's Blue Solution		50ml	100ml	10-30 °C
Reagent (D): Light Green Fuchsin Staining Solution		50ml	100ml	10-30 °C, Avoid exposure to light
Reagent (E): Weak acid solution		50ml	100ml	10-30 °C
Reagent (F): Phosphomolybdic acid solution		50ml	100ml	10-30 °C, Avoid exposure to light
Reagent (G): Solid Green Staining Solution		50ml	100ml	10-30 °C, Avoid exposure to light

In a narrow sense, connective tissue refers to the three types of fibers it contains: collagen fibers, reticular fibers, and elastic fibers, with collagen fibers being the most widely distributed and abundant. Masson's trichrome staining, also known as Masson staining, is the most classic method for connective tissue staining and is an authoritative and classic technique for staining collagen fibers. The term "trichrome staining" usually refers to staining the cell nucleus and selectively displaying collagen fibers and muscle fibers. The staining principle of this method is related to the size of the anionic dye molecules and the tissue permeability: the size of the molecules is reflected by their molecular weight, with

small molecular weight dyes easily penetrating dense and low-permeability tissues, while large molecular weight dyes can only enter loosely structured and highly permeable tissues. However, both light green and aniline blue have large molecular weights, so after Masson staining, muscle fibers appear red, while collagen fibers appear green (light green) or blue (aniline blue), primarily used to differentiate between collagen fibers and muscle fibers. The staining is stable, the differentiation time is short (1-2 seconds), the colors are clear and vibrant, it is suitable for staining tissue sections such as paraffin sections and frozen sections, and the stained sections can be stored for a long time without significant fading.

Usage

1. Deparaffinize the tissue sections routinely to water, and stain with prepared Weigert's Iron Hematoxylin for 5-10 minutes.
2. Differentiate with acidic ethanol differentiation solution, followed by rinsing with water.
3. Counterstain with Masson's Blue Solution to achieve a blue color, and rinse with water.
4. Rinse with distilled water for 1 minute.
5. Stain with Light Green Fuchsin Staining Solution for 5-10 minutes.
6. During the above steps, prepare a working solution of weak acid by mixing distilled water and weak acid solution at a ratio of 2:1, and wash with the weak acid working solution for 1 minute.
7. Wash with Phosphomolybdic Acid Solution for 1-2 minutes.
8. Wash with the prepared weak acid working solution for 1 minute.
9. Directly immerse the sections in Solid Green Staining Solution for 1-2 minutes.
10. Wash with the prepared weak acid working solution for 1 minute.
11. Perform rapid dehydration with 95% ethanol. Perform three rounds of dehydration with absolute ethanol, each round lasting 5-10 seconds.
12. Clear the sections with xylene three times, each time for 1-2 minutes. Mount with neutral mounting medium.

Staining Results

Cell nuclei, collagen fibers/proteins	Green
Cytoplasm, muscle, red blood cells	Red

Notes

1. Tissue sections should be thoroughly deparaffinized. Fixation plays a crucial role, and different fixatives can either prolong or shorten the staining time.
2. Mixing equal amounts of A1 and A2 creates Weigert's Iron Hematoxylin staining solution, which typically loses its staining power after 24 hours.
3. The duration of acidic ethanol differentiation should be determined based on the thickness of the sections, the type of tissue, and its age.
4. Weak acid solution can enhance color clarity and vibrancy. If a large quantity is required, a 0.1-0.3% acetic acid solution can be prepared as a substitute.
5. Control the differentiation of phosphomolybdic acid under a microscope, stopping when collagen fibers appear pale red and fibers appear red. The differentiation time depends on the desired staining intensity, typically ranging from 1 to 2 minutes.
6. Masson's Blue Solution can be substituted with self-prepared Scott's Accelerated Blue or a 0.1-1% lithium carbonate aqueous solution.

Disclaimer

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