Pollak'S Trichrome Staining Solution

Cat #: A-CSH405

Size: 50mL, 100mL

Storage: Room temperature, avoid light (12 months)

Product Description

Connective tissue, in a narrow sense, refers to the three types of fibers it contains: collagen fibers, reticular fibers, and elastic fibers. Among them, collagen fibers are the most widely distributed and abundant. Masson's trichrome staining, also known as Masson's staining, is the most classical method for staining connective tissue and is an authoritative and classic technique for staining collagen fibers. The term "trichrome staining" usually refers to staining cell nuclei and selectively displaying collagen fibers and muscle fibers. The staining principle of this method is related to the size of anionic dye molecules and tissue permeability: the size of the molecules is reflected by their molecular weight, and low molecular weight molecules easily penetrate tissues with dense structures and low permeability, while high molecular weight molecules can only enter tissues with loose structures and high permeability. Pollak's trichrome staining is a modified multi-color staining method for connective tissue based on Masson's trichrome staining. It uses both mordant and chromogen to stain multiple components in connective tissue.

The major feature of Pollak's trichrome staining is the fusion of the core dyes used in Masson's trichrome staining, which greatly simplifies the operation steps. Other characteristics include: (1) stable staining; (2) short differentiation time, 1-2 seconds; (3) suitable for paraffin sections; (4) long preservation time of stained sections without easy fading.

Usage

1. Dewax the sections routinely until water.

2. Stain with prepared iron hematoxylin for 5-10 minutes.

3. Rinse thoroughly with water and observe under a microscope. If the staining is too intense, differentiate in acidified ethanol differentiation solution for a few seconds.

4. Rinse in running tap water, followed by 2-4 rinses with distilled water.

5. Stain with Pollak's staining solution for 3-10 minutes.

6. During the above steps, prepare Pollak's differentiation working solution by mixing distilled water and Pollak's differentiation solution in a ratio of 2:1. Wash briefly with Pollak's differentiation working solution and observe under a microscope to determine the appropriate duration.

7. Rapidly dehydrate in 95% ethanol, followed by three dehydrations in absolute ethanol for 5-10 seconds each.

8. Clear with xylene three times for 1-2 minutes each, and mount with neutral mounting medium.

Notes

1. The dewaxing of the sections should be as clean as possible. Weigert's iron hematoxylin staining solution should be prepared and used immediately, as it generally loses its staining ability within 24 hours.

2. Tissue fixation plays a crucial role, and different fixation solutions can prolong or shorten the staining time.

3. Weigert's staining for cell nuclei is used because the main purpose of staining is to differentiate collagen fibers and muscle fibers. Generally, this staining step can be omitted.

4. The differentiation time of acidified ethanol should be determined based on the thickness of the sections, the type of tissue, and its freshness.

5. The staining time with Pollak's staining solution should be strictly controlled: if the staining time is too short, it will result in deepening of the red color; if the staining time is too long, it will lead to deepening of the green or blue color.

6. Pollak's differentiation solution can enhance color clarity and vibrancy. If a large quantity is needed, a 0.1-0.3% acetic acid solution can be prepared as a substitute.

7. For your safety and health, please wear laboratory attire and use disposable gloves during the procedure.

Disclaimer

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