Reticulin Fiber Staining Solution (Modified Gordon-Sweets Method)

Cat #: A-CSH322

Size: 6×50mL

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

Product Composition

Component		3×100ml	Store at
Reagent (A): Gordon-Sweets oxidant	A1: GS oxidant A	25ml	10~30°C
	A2: GS oxidant B	25ml	10~30°C
Before use, mix equal amount of A1 and A2 as Gordon-Sweets oxidant, that is, ready.			
Reagent (B): oxalic acid solution		50ml	10~30°C
Reagent (C): Ammonium iron sulfate solution		50ml	10~30°C
Reagent (D): Gordon-Sweets silver ammonia solution		50ml	2~8°C, and were protected from light
Reagent (E): the Gordon-Sweets reducing agent		50ml	10~30°C
Reagent (F): Nuclear solid staining solution		50ml	10~30°C, and were protected from light

Product Description

Reticular fibers are a type of fiber found in reticular connective tissue, produced by reticular cells. They have a diameter of 0.2-1.0μm, are tough but not elastic. There are many staining methods for reticular fibers, but the staining principles are generally the same, with most using the silver impregnation method. The modified Gordon-Sweets staining principle relies on the easy adsorption of tissue proteins by the silver solution, which is then reduced by formaldehyde to form black or dark brown metallic silver deposits within and on the surface of the tissue. In the traditional method, gold chloride is used for toning after reduction, followed by washing with sodium thiosulfate solution to remove unreduced silver salts from the tissue. This modified method eliminates that step, resulting in clearer contrast of

reticular fibers.

The staining solution for reticular fibers (modified Gordon-Sweets method) involves steps such as oxidation, bleaching, staining, silver impregnation, reduction, and restaining, with the difference from the modified Gomori method being the use of acidic oxidizing agents and nuclear fast red restaining solution. Frozen sections, cryosections, and paraffin sections can all be used for staining reticular fibers. Various fixatives can be used, although heavy metal mercury or osmium fixatives occasionally produce some nonspecific silver background. It is commonly used to differentiate the nature and origin of tumors, carcinoma from sarcoma, lymphosarcoma from reticulosarcoma, intravascular endothelioma from extravascular endothelioma, osteoid osteoma from osteosarcoma, meningioma from astrocytoma, malignant neurofibroma, and early invasive carcinoma, among others.

Usage

1. Fix the tissue in 10% formalin fixative, followed by routine dehydration and embedding.
2. Cut sections with a thickness of 4μm, and dewax the sections to water.
3. Place the sections on a staining rack and add the prepared Gordon-Sweets oxidizing agent, oxidizing for 5 minutes.
4. Rinse slightly with water.
5. Bleach with oxalic acid solution for 1-2 minutes.
6. Rinse with running water for 2 minutes, followed by a slight rinse with distilled water.
7. Stain with ammonium iron sulfate solution for 5 minutes.
8. Rinse slightly with water, followed by a slight rinse with distilled water.
9. Add Gordon-Sweets silver ammonia solution for staining, for 3 minutes.
10. Rinse slightly with distilled water.
11. Reduce with Gordon-Sweets reducing agent for 1 minute, followed by rinsing with running water for 10 minutes.
12. Stain cell nuclei with nuclear fast red staining solution for 5-10 minutes, and rinse slightly with water.
13. Dehydrate, clear, and mount with neutral mounting medium following routine procedures

Staining Results

lattice fibers	black
collagenous fiber	Yellow to yellow brown
nucleus	red
kytoplasm	popcorn

Notes

1. Glassware must be soaked in detergent for 1 day, rinsed thoroughly with tap water, and then rinsed twice with distilled water.

2. 10% formalin fixative is a suitable fixative and it is not advisable to use mercury-containing fixatives such as Zenker's solution, as they may result in nonspecific precipitation in the sections.

3. Gordon-Sweets silver ammonia solution is not very stable and sensitive to light. It should be stored at 4°C to avoid degradation and used at room temperature after returning to its original state.

Disclaimer

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