Myelin Sheath Staining Solution (Variamine Acid 2R Method)

Cat #: A-CSH401

Size: 100mL

Storage: Room temperature, avoid light (12 months)

Product Description

The myelin sheath is a membrane that wraps around the axon of a nerve cell. It is composed of myelin-forming cells and their cell membranes. The myelin sheath is a multilayered lipid bilayer structure formed by the spiral wrapping of the plasma membrane of the myelinating glial cells around the axon. The myelin sheath contains the nodes of Ranvier, which facilitate the saltatory conduction of nerve impulses. Myelin staining has certain significance in pathological diagnosis, and the pathological changes of the myelin sheath can be classified into early, middle, and late stages. In the early stage, the staining is deeper. In the middle stage, myelin degeneration occurs, forming lipid droplets that can be visualized using lipid staining. In the late stage, the myelin sheath undergoes complete disintegration and is cleared by phagocytic cells, resulting in a negative staining for myelin.

Many diseases can cause changes in the myelin sheath. Myelin staining solution (Variation Acid 2R Method) can indicate the integrity, degeneration, necrosis degree, and repair status of the myelin sheath under pathological conditions. It is meaningful for pathological diagnosis and research of neural tissues. The myelin sheath appears as a deep green color, while demyelinated fibers do not stain.

Usage

1. Fix the samples with formalin calcium fixative.

2. Deparaffinize the sections with distilled water.

3. Incubate the sections in Variation Acid 2R staining solution.

4. Prepare an appropriate amount of 2R differentiation solution by mixing 2R differentiation solution and distilled water in a ratio of 1:3. Rinse the sections directly in the 2R differentiation working solution for 2-3 times.

5. Perform a second staining with Cresyl Violet staining solution.

6. Rinse with tap water.

7. Perform routine gradient ethanol dehydration, xylene clearing, and mount with neutral mounting medium.

Notes

1. Differentiation is a critical step, and the differentiation time should be strictly controlled. The degree of differentiation can be observed under a microscope.

2. It is preferable to use formalin calcium fixative as the fixing solution, but 10% neutral formalin or formalin can also be used.

3. The sections should not be too thick, as it may lead to issues such as detachment or over-staining.

4. 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.