Myelin Sheath Staining Solution (Luxol Fast Blue G Method)

Cat #: A-CSH402

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 consists of myelinating cells and their cell membranes, forming a multilayered lipid bilayer structure along the axis of the nerve fiber. The myelin sheath plays a significant role in pathological diagnosis. 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 is completely degraded and cleared by phagocytic cells, resulting in a negative staining for myelin.

Various diseases can cause changes in the myelin sheath. For example, when nerve fibers are damaged, the myelin sheath may exhibit changes such as swelling, twisting into spherical shapes, fragmentation, or complete demyelination. Myelin Staining Solution (Luxol Fast Blue Method) utilizes a combination of Luxol Fast Blue and Cresyl Violet staining. Luxol Fast Blue stains the myelin sheath red, while Cresyl Violet stains the axons, nerve bundle sheaths, and neural tunics green.

Usage

1. Fix the samples with formalin calcium fixative.
2. Deparaffinize the sections with distilled water.
3. Incubate the sections in Luxol Fast Blue Staining Solution for 3-5 minutes.
4. Rinse with distilled water.
5. Treat with Mordant Solution for 1 minute.
6. Perform a second staining with Cresyl Violet Staining Solution for 3-5 minutes.

7. Differentiate with Acid Differentiation Solution for 10 seconds, followed by rinsing with tap water.

8. Perform gradient alcohol dehydration, xylene clearing, and mount with neutral mounting medium.

Notes

1. Differentiation is a crucial 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 fixation 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. All staining equipment used must be thoroughly cleaned and rinsed with distilled water. It is recommended to first test the staining on a sample section and determine the staining time after observing it under a microscope.

5. 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.