Myelin Staining Kit, Luxol Fast Blue (LFB) Method

Catalog No.: RA20125

Basic Information

Product name	Myelin Staining Kit, Luxol Fast Blue (LFB) Method
Sizes	50 mL
Storage	RT
Shipping	RT
Validity	12 months

Product Introduction

The myelin sheath is a membrane that wraps around the axons of nerve cells. It is composed of myelin-forming cells and their cell membranes, forming a multilayered lipid bilayer structure through spiral wrapping of the neural membrane cell' s plasma membrane along the axonal axis. The myelin sheath contains nodes of Ranvier, which allow for saltatory conduction of nerve impulses. Myelin staining is of certain significance in pathological diagnosis. Pathological changes in myelin can be divided into early, middle, and late stages. In the early stage, myelin stains deeply; in the middle stage, degenerated myelin forms lipid droplets, which can be demonstrated with lipid stains; in the late stage, myelin is completely degraded and removed by phagocytes, resulting in loss of positive staining.

Many diseases can cause changes in myelin. Luxol Fast Blue myelin staining can reveal whether the myelin is intact, degenerated, or necrotic under pathological conditions, as well as the extent of repair. It is valuable for pathological diagnosis and research of neural tissue. For example, when nerve fibers are damaged, the myelin may swell, become tortuous and spherical, break, or completely disappear.

Product Components

Components	3x 50mL
Reagent (A): Luxol Fast Blue Staining Solution	50 mL
Reagent (B): Luxol differentiation solution	50 mL
Reagent (C): Eosin Staining Solution	50 mL

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Materials Required (Not Supplied)

1. Distilled water, graded ethanol series, xylene or dewaxing and clearing agent, neutral balsam.

Experimental procedure

1. Cut paraffin sections at 5–10 μm. Dewax with xylene or clearing agent and hydrate to water. Rinse briefly in 95% ethanol.
2. Immerse in Luxol Fast Blue Staining Solution and stain at room temperature for 12–20 h (or at 60 °C for 2 h).
3. Rinse briefly with 95% ethanol to remove excess stain.
4. Rinse with distilled water. Immerse in Luxol differentiation solution for 5–15 s.
5. Differentiate in 70% ethanol for 30 – 60 s until gray and white matter are clearly distinguished (repeat step 4 if differentiation is insufficient).
6. Rinse with distilled water.
7. Counterstain with eosin staining solution for 1–5 min (cresyl violet may also be used).
8. Rinse with water.
9. Dehydrate with 95% and absolute ethanol. Clear with xylene or clearing agent and mount with neutral balsam.

Staining Results

Component	Color
Myelin sheath	Blue
Cell bodies (eosin counterstain)	Red
Nuclei and Nissl bodies (cresyl violet counterstain)	Purple

Notes

1. The differentiation step is critical. Differentiation time should be strictly controlled and observed under the microscope.
2. Calcium-formalin fixative is preferred; 10% neutral formalin or formalin may also be used.
3. Sections should not be too thick (5–10 μm max) to avoid detachment or over-staining.

4. For your safety and health, wear a lab coat and disposable gloves during operation.
5. Use reagents promptly after opening to maintain optimal performance.

This product is for research use only!