Modified Oil Red O Staining Kit

Cat #: A-CSH293

Size: 2×50mL, 2×100mL

Storage: 2-8 °C, Avoid exposure to light (1 year)

Product Description

Component		2×50ml	2×100ml	Store at
Reagent (A): Modified Sudan Red O Staining Solution	A1: Sudan Red O Staining Solution A	30ml	60ml	2-8°C, Avoid exposure to light
	A2: Sudan Red O Staining Solution B	20ml	40ml	2-8°C
After thoroughly mixing A1 and A2, let the mixture stand for 10 minutes. The modified Sudan Red O staining solution is obtained by taking the supernatant in a ratio of A1 to A2 of 3:2. It is not recommended to prepare the solution in advance. If possible, filtration should be performed to avoid pigment precipitation, which may cause false-positive results.				
Reagent (B): Mayer's Hematoxylin Staining Solution		50ml	100ml	2-8°C, Avoid exposure to light

Lipids are a collective term for neutral fats, phospholipids, and their derivatives. They share the common physical characteristic of being insoluble in water but soluble in organic solvents such as ethanol and ether. Sudan Red O is a strong lipid solvent and lipid dye. It tends to form small lipid droplets when combined with triglycerides and has a slightly weaker affinity for phospholipids. The staining principle is generally believed to involve physical solution or adsorption, where the dye interacts with lipids and stains them. The solubility of the dye in lipid within frozen sections is greater than in the original solvent, allowing the dye to transfer from the organic solvent to the lipids and stain the fat.

Modified Sudan Red O staining solution is mainly used to demonstrate lipid degeneration in tissue organs and abnormal lipid deposition, which commonly occur in the parenchymal organs such as the liver, kidney, and heart, where numerous neutral fat droplets appear in the cells. It is also used to differentiate and diagnose tumors occurring in adipose tissue and determine their nature. Specimens are not fixed with ethanol-containing fixatives (if fixation is required, 10% formalin can be used), and paraffin sections are not suitable. Frozen sections or carbon wax sections are

required. Positive staining of lipids results in an orange-yellow to red color, although the specific color may vary depending on the lipid concentration.

Usage

1. Prepare frozen sections with a thickness of 6-10 µm. Rinse the sections in distilled water without fixation or after 10 minutes of fixation in 10% formalin.

2. Rinse the sections three times in distilled water.

3. Immerse the sections in 100% isopropanol for 5 minutes to prevent water from entering the modified Sudan Red O staining solution on the slides.

4. Incubate the slides in the modified Sudan Red O staining solution at 60° C in a closed container for 8 minutes.

5. Transfer the slides to 85% isopropanol for 5 minutes.

6. Rinse the slides in distilled water for 3 minutes.

7. Immerse the slides in Mayer's hematoxylin staining solution for nuclear counterstaining for 30 seconds.

8. (Optional) Differentiate slightly in 1% hydrochloric acid solution.

9. Rinse the slides under running water for 3 minutes.

10. Rinse the slides twice in distilled water.

11. Blot the excess water around the slides with filter paper. Mount the slides with glycerol gelatin.

Staining Results

Neutral Fat	Orange-red or orange color
Cell Nuclei	Pale blue color

Notes

1. For your safety and health, please wear lab coats 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.