Mast Cell Staining Kit, Aldehyde Fuchsin-Orange G Method

Catalog No.: RA20138

Basic Information

Product name	Mast Cell Staining Kit, Aldehyde Fuchsin-Orange G Method
Sizes	4x 20 mL
Storage	2-8℃, keep away from light
Shipping	Shipped with ice pack
Validity	6 months

Product Introduction

Mast cells are commonly found in loose connective tissue, often distributed in groups along small blood vessels and lymphatics, and are also frequently observed around interlobular ducts in the bronchi and pancreas. These cells are generally large, about 20–30 μm in diameter, round or oval in shape, with a small nucleus and cytoplasm filled with coarse, metachromatic, eosinophilic granules.

The staining mechanism of EnkiLife Mast Cell Staining Solution (Aldehyde Fuchsin-Orange G Method) is based on the strong affinity of aldehyde fuchsin for acidic mucopolysaccharides containing sulfate groups. Mast cell granules contain heparin with carboxyl and sulfate groups, which readily combine with aldehyde fuchsin to form a colored complex. Orange G is an acidic dye that stains other tissue components yellow. This method can demonstrate metachromatic granules. After staining, mast cell granules appear deep purple, other cells are mostly unstained, and the background appears orange-yellow, providing a sharp contrast.

Product Components

Components	4x 20mL
Reagent (A): Weigert's Iodine Solution	20 mL
Reagent (B): Weigert's Differentiation Solution	50 mL
Reagent (C): Aldehyde Fuchsin Staining Solution	20 mL
Reagent (D): Orange G Staining Solution	20 mL

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Materials Required (Not Supplied)

1. 10% neutral formalin fixative, graded ethanol.
2. Xylene or eco-friendly dewaxing and clearing solution, neutral balsam.

Perimental procedure

1. Immediately fix fresh tissue in 10% neutral formalin fixative, then dehydrate routinely and embed in paraffin.
2. Cut sections to 4–5 μm thickness. Dewax with xylene or dewaxing solution and hydrate to water.
3. Immerse in Weigert's iodine solution and incubate at room temperature for 5 min, then rinse briefly with water.
4. Differentiate with Weigert's differentiation solution for 2 min, then rinse with running water for 5 min.
5. Rinse briefly with 70% ethanol. Immerse in aldehyde fuchsin staining solution with cover for 10–20 min.
6. Rinse off excess stain with 70% ethanol, then rinse briefly with water.
7. Counterstain with Orange G staining solution dropwise for 1–2 s, then rinse briefly with water.
8. Dehydrate routinely, clear with xylene or clearing solution, and mount with neutral balsam.

Staining Results

Component	Color
Mast cell granules	Purple or deep purple
Elastic fibers	Purple
Erythrocytes	Orange-yellow
Other tissues	Light yellow

Notes

1. For mast cell staining, tissue should be fresh and fixed immediately after removal.
2. If 10% neutral formalin fixative is not available, 4% formaldehyde in physiological saline may be used as a substitute.

3. Control the staining intensity of Orange G to avoid over-staining, which may obscure the purple granules.
4. After differentiation, quickly proceed to 95% ethanol, absolute ethanol, and xylene. Prolonged exposure may cause fading.
5. Use reagents promptly after opening to avoid affecting experimental results.
6. For safety and health, wear lab coats and disposable gloves during operation.

This product is for research use only!