Safranin O-Fast Green Plant Tissue Staining Kit

Catalog No.: RA20096

Basic Information

Product name	Safranin O-Fast Green Plant Tissue Staining Kit
Sizes	50 mL
Storage	RT
Shipping	RT
Validity	12 months

Product Introduction

There are various ways to stain plant tissues, and their operational procedures are similar to those of animal tissue staining. Saffron O-fixed green staining is the most commonly used staining method in plant sectioning, especially for ordinary sectioning of root, stem, and leaf tissues of higher plants, which can achieve good results.

EnkiLife Safranin O-Fast Green Plant Tissue Staining Solution is mainly composed of Safranin O staining solution and Fast Green staining solution. After staining, in sections of root, stem, leaf and other tissues: Nuclei and lignified cell walls appear bright red; Cutinized cell walls appear translucent pink; Suberized cell walls appear reddish-brown; Cytoplasm and cellulose-containing cell walls appear green. The contrast between the two colors is sharp and easy to observe. Differentiation is critical: over-differentiation may lead to no staining, while under-differentiation may result in overly intense staining.

Product Components

Components	3x 50mL
Reagent (A): Safranin O Staining Solution	50 mL
Reagent (B): Acid Ethanol Differentiation Solution	50 mL
Reagent (C): Fast Green Staining Solution	50 mL

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Materials Required (Not Supplied)

1. Distilled water, 10% neutral formalin fixative.
2. Graded ethanol series, xylene or eco-friendly dewaxing and clearing solution, neutral balsam.

Experimental procedure

1. Sample preparation: Fix and embed into paraffin blocks.
2. Section adhesion: Cut tissue into thin slices and mount onto glass slides. Heat to flatten. Slides must be clean. Apply adhesive (e.g., gelatin, Mayer’ s albumin, Land’ s solution) first, then float the section on the adhesive, and place on a warming table to flatten the tissue without wrinkles. Incubate at 30–40 °C for ~1 h.
3. Dewaxing: Xylene → Xylene + Absolute ethanol (1:1) → 100% ethanol → 95% ethanol → 85% ethanol → 70% ethanol → 50% ethanol → 30% ethanol → Water. Each step: 5–10 min.
4. Stain with Safranin O staining solution for 1–12 h.
5. Differentiate with acid ethanol differentiation solution for 10–30 s.
6. Destaining: 35% ethanol → 50% ethanol → 70% ethanol → 80% ethanol. Each step: 1–5 min.
7. Rinse with water for 1 min.
8. Immerse in Fast Green staining solution for 10–40 s, then rinse with distilled water for 1 min.
9. Dehydrate with 95% ethanol for 3–5 min, then absolute ethanol for 5 min. Clear with 50% xylene + 50% ethanol for 5 min, then xylene for 5 min.
10. Mount with neutral balsam, examine under microscope promptly.

Staining Results

Component	Color
Lignified, suberized, cutinized cell walls	Bright red or purplish red
Cytoplasm, Muscle, Red blood cells	Green

Notes

1. After Safranin staining, destaining in 50% ethanol requires optimization. If destaining is insufficient, Fast Green staining will be poor; if excessive, red staining will fade or turn entirely green.
2. Fast Green is a rapid-staining dye. Do not over-stain, or it will cause Safranin to fade.

3. Xylene can be replaced with eco-friendly dewaxing and clearing solution.
4. Staining time is not absolute and may vary with plant species and section thickness.
5. For your safety and health, wear a lab coat and disposable gloves during operation.
6. Use the reagent promptly after opening to avoid affecting experimental results.

This product is for research use only!