



植物组织石蜡切片番红固绿染色实验报告

一、实验器材及试剂

1、实验器材

名称	厂家	型号
脱水机	DIAPATH	Donatello
包埋机	武汉俊杰电子有限公司	JB-P5
病理切片机	上海徕卡仪器有限公司	RM2016
冻台	武汉俊杰电子有限公司	JB-L5
组织摊片机	浙江省金华市科迪仪器设备有限公司	KD-P
烤箱	天津市莱玻璃仪器设备有限公司	GFL-230
载玻片	Servicebio	
正置光学显微镜	日本尼康	NIKON ECLIPSE E100
成像系统	日本尼康	NIKON DS-U3

2、主要实验试剂

试剂名称	厂家	货号
无水乙醇	国药集团化学试剂有限公司	100092683
二甲苯	国药集团化学试剂有限公司	10023418
环保型脱蜡透明液	Servicebio	G1128
番红固绿(植物)染液	Servicebio	G1031
中性树脂	国药集团化学试剂有限公司	10004160

二、实验步骤

- 石蜡切片脱蜡至水：**依次将切片放入环保型脱蜡透明液 I 20min-环保型脱蜡透明液 II 20min-无水乙醇 I 5min-无水乙醇 II 5min-75%酒精 5min，自来水洗。
- 番红染色：**切片入植物番红染色液中染色 2h，自来水稍洗，洗去多余染料即可。
- 脱色：**切片依次入 50%、70%、80%梯度酒精中各 3-8s。
- 固绿染色：**切片入植物固绿染色液中染色 6-20s，无水乙醇三缸脱水。



5、透明封片：切片入干净的二甲苯透明5min，中性树胶封片。

6、显微镜镜检，图像采集分析。

三、结果判读：

木质化的细胞壁呈红色，纤维素细胞壁呈绿色。

四、注意事项：

1、番红在水中易褪色，水洗应该快，将多余染液洗去即可，不能让番红褪色。

2、染色后的片子应该形态结构清晰，没有多余的固绿染液残留。



Experimental Report on Plant Tissue Safranin o-Fast Greenstaining

1. Experimental equipment and reagents

1.1 Experimental equipment

Name	Manufacturers	Model
Dehydrator	DIAPATH	Donatello
Encapsulation machine	Wuhan Junjie Electronics Co., Ltd.	JB-P5
Pathological slicer	Shanghai Leica Instruments Co., Ltd.	RM2016
Frozen	Wuhan Junjie Electronics Co., Ltd.	JB-L5
Organizing a stall machine	Cody Equipment Co., Ltd., Jinhua City, Zhejiang Province	KD-P
Oven	Tianjin Leiboi Instruments and Equipment Co., Ltd.	GFL-230
Slides	Servicebio	
Positive optical microscope	Nikon, Japan	Nikon Eclipse E100
Imaging systems	Nikon, Japan	Nikon DS-U3

1.2 Main experimental reagents

Reagent Name	Manufactor	Article Number
Waterless ethanol	China Pharmaceutical Group Chemical Reagents Co., Ltd.	100092683
Xylene	China Pharmaceutical Group Chemical Reagents Co., Ltd.	10023418
BioDewax and Clear Solution	Servicebio	G1128
Safranin O-Fast Green staining solution	Servicebio	G1031
Neutral gum	China Pharmaceutical Group Chemical Reagents Co., Ltd.	10004160

2. Experimental steps

2.1 The sections were rehydrated in two changes of BioDewax and Clear Solution and 100%I% - 100%II - 75% alcohol. Each step takes anywhere for 5 minutes. Finally, rinse with running water.

2.2 Safranin O staining: Put sections into safranin O staining solution for 15-30 s and three cylinders of anhydrous ethanol for rapid dehydration.

2.3 Decolorization: put slides into 50%, 70% and 80% alcohol for 3~8 s.

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2.4 Fixed green staining: sections into plant solid green staining solution staining 6~20 s, anhydrous ethanol three-cylinder dehydration.

2.5 Put sections into three cylinders of xylene for 5 min. Finally, mount the tissue section with neutral balsam.

2.6 Observed under microscope and took images.

3. The results were as follows

The cytoderm which has lignified appear red and the color of cellulose cell wall is green.

4. Precautions

4.1 Wash quickly after stain safranin O, because it is easy to fade in water.

4.2 The film after dyeing should have a clear morphology and structure, and no excess solid green dyeing solution remains.