# 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 | 天津市莱玻瑞仪器设备有限公司 | GFL-230 |
| 载玻片 | Wanwu | |
| 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 |
| 番红固绿(植物)染液 | Wanwu | G1031 |
| 中性树胶 | 国药集团化学试剂有限公司 | 10004160 |

## 二．实验步骤

1、石蜡切片脱蜡至水：依次将切片放入二甲苯I20min-二甲苯II20min-无水乙醇I5min-水乙醇II5min-75%酒精 5min，自来水洗。

2、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。

3、脱色：切片依次入 50%、70%、80%梯度酒精中各 3-8s。

4、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 Green staining

## 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 | Wanwu | |
| 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 |
| Safranin O-Fast Green staining solution | Wanwu | G1031 |
| Neutral gum | China Pharmaceutical Group Chemical Reagents Co., Ltd. | 10004160 |

## 2.Experimental steps

2.1 The sections were rehydrated in two changes of xylenes 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.

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.