



## 红氨酸铜染色实验报告

### 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     | 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  |
| 红氨酸  | Sigma        | 379387    |
| 醋酸钠  | 国药集团化学试剂有限公司 | 10018818  |
| 核固红  | Servicebio   | G1035     |
| 中性树胶 | 国药集团化学试剂有限公司 | 10004160  |

### 二、试剂配制

0.1%的红氨酸乙醇液：红氨酸 10mg+无水乙醇 10ml

10%的醋酸钠：醋酸钠 10g+超纯水 100ml

### 三、实验步骤

地址：湖北省武汉市高新区高新二路 388 号生物医药加速器 C22 栋 5 楼 网址：<http://www.servicebio.cn>

电话：4006-027-178

Add: 5th Floor, C22 Building, Biopark, No. 388 Gaoxin 2nd Road, East Lake High-tech Developing Zone, Wuhan, Hubei, China, 430079 Website: <http://www.servicebio.com> Tel: 027-5111-3188



武汉赛维尔生物科技有限公司

Wuhan Servicebio Technology Co., Ltd.

- 1、石蜡切片脱蜡至水：依次将切片放入二甲苯120min-二甲苯120min-无水乙醇15min-无水乙醇15min-75%酒精 5min，自来水洗，蒸馏水洗 3 次。
- 2、红氨酸铜染色：将0.1%的红氨酸乙醇液：10%的醋酸钠以1：20比例混匀，切片浸入混合液中加盖于37℃水浴锅处理约3天。切片入70%的乙醇浸洗2次，每次10min，入无水乙醇浸洗2次，每次3h；
- 3、染核：蒸馏水浸洗3次，将乙醇洗干净，复染核固红3min，自来水水洗；
- 4、脱水透明：无水乙醇3缸脱水，正丁醇透明5min，二甲苯透明5min，中性树胶封片。
- 5、显微镜镜检，图像采集分析。

### 三、结果判读：

铜盐沉积处呈深绿黑色，细胞核呈红色。

### 四、注意事项：

- 1、0.1%的红氨酸乙醇液常温避光保存；
- 2、红氨酸铜混合液要现配现用，用完弃掉。



## Copper Red Acid Staining Experimental Report

### 1. Lab Equipment and Reagents

#### 1.1 Lab equipment

| Items                      | Manufacturer                                           | Model              |
|----------------------------|--------------------------------------------------------|--------------------|
| Dehydrator                 | DIAPATH                                                | Donatello          |
| embedding machine          | Wuhan Junjie Electronics Co., Ltd.                     | JB-P5              |
| Pathology microtome        | Shanghai Leica Instruments Co., Ltd.                   | RM2016             |
| Frozen platform            | Wuhan Junjie Electronics Co., Ltd.                     | JB-L5              |
| Water Bath-Slide Drier     | Zhejiang Jinhua Kedi Instrumental<br>Equipment CO.,LTD | KD-P               |
| Laboratory oven            | Tianjin Labotery Instrument Equipment<br>Co., Ltd.     | GFL-230            |
| Microscope slide           | Servicebio                                             |                    |
| Upright optical microscope | Nikon Japan                                            | Nikon Eclipse E100 |
| Imaging system             | Nikon Japan                                            | NIKON DS-U3        |

#### 1.2 Chemical reagents

| Items            | Manufacturer                         | Model     |
|------------------|--------------------------------------|-----------|
| Absolute alcohol | Sinopharm Chemical Reagent Co., Ltd. | 100092683 |
| Xylene           | Sinopharm Chemical Reagent Co., Ltd. | 10023418  |
| Dithio oxamide   | Sigma                                | 379387    |
| Acetic acid      | Sinopharm Chemical Reagent Co., Ltd. | 10018818  |
| Nuclear fast red | Servicebio                           | G1035     |
| Neutral balsam   | Sinopharm Chemical Reagent Co., Ltd. | 10004160  |

### 2. Reagent Preparation

0.1% Dithio oxamide ethanol solution: Dithio oxamide 10mg + absolute ethanol 10ml

10% acetic acid: acetic acid 10g + ultra-pure water 100ml

### 3. Experimental Steps

地址: 湖北省武汉市高新区高新二路 388 号生物医药加速器 C22 栋 5 楼 网址: <http://www.servicebio.cn>

电话: 4006-027-178

Add: 5th Floor, C22 Building, Biopark, No. 388 Gaoxin 2nd Road, East Lake High-tech Developing Zone,  
Wuhan, Hubei, China, 430079 Website: <http://www.servicebio.com> Tel: 027-5111-3188



3.1 Paraffin section deparaffinization and rehydration: put the slides into xylene I 20minutes-xylene II 20 minutes-absolute ethanol I 5 min-absolute ethanol II 5 min-75% alcohol for 5 min, then tap water washing and distilled water washing for 3 times.

3.2 Copper red acid staining: 0.1% Dithio oxamide ethanol solution: 10% sodium acetate mix at a ratio of 1:20, and put the slides into the mixed solution and covered in a 37°C water bath for about 3 days. Put the slides into 70% ethanol twice for 10 minutes each time, and absolute ethanol washing for twice, 3 hours each time;

3.3 Nuclear staining: distilled water washing for 3 times, wash out ethanol, nuclear fast red counterstaining for 3min, then tap water washing;

3.4 Dehydration and sealing: dehydrate with absolute ethanol in 3 cylinders, transparent with n-butanol for 5min, and xylene for 5min, neutral balsam sealing.

3.5 Microscope examination, image collection and analysis.

#### 4. Results

The copper salt deposition are dark green and black, and the nucleus is red.

#### 5. Notes

5.1 0.1% Dithio oxamide ethanol solution should be stored at room temperature( lightproof);

5.2 The copper red acid mixed solution should be ready for use and discard after usage.