V02

# 改良苏木素伊红(HE)染色试剂盒

**货号：**G1121
**规格：**4×10mL/4×100mL
**保存：**常温，避光保存，有效期 1 年。

## 产品组成：

| 名称 | 4×10mL | 4×100mL | 保存 |
|---|---|---|---|
| 试剂（A）：苏木素染液 | 10mL | 100mL | 室温，避光 |
| 试剂（B）：分化液 | 10mL | 100mL | 室温 |
| 试剂（C）：返蓝液 | 10mL | 100mL | 室温 |
| 试剂（D）：伊红染液 | 10mL | 100mL | 室温，避光 |

*注意：环境温度低时，返蓝液可能会有结晶析出，将返蓝液 37℃水浴融化 10min 后，吸取上清即可。*

## 产品介绍：

苏木精-伊红染色法（Hematoxylin-Eosin staining），简称HE染色法，是病理学常规制片中最基本的染色方法。苏木精染液为碱性染料，主要使嗜碱性物质如细胞核内的染色质与胞质内的核糖体着紫蓝色；伊红为酸性染料，主要使嗜酸性的细胞质和细胞外基质中的成分着红色。

染色过程需要根据具体实验样本进行优化，着色情况的不同与组织或细胞的种类不同有关，也随其生活周期及病理变化而改变。例如，很多细胞在新生时期胞浆对伊红着色较淡或轻度嗜碱，当其衰老时或发生退行性变化则呈现嗜伊红浓染。胶原纤维在老化和出现透明变性时，伊红着色由浅变深。本产品所包含试剂均为工作液，可直接使用。新型试剂盒相比常规的，伊红和苏木素着色时间更短，颜色对比更鲜亮。

## 操作步骤：（*仅供参考*）

### （一）石蜡组织切片染色

1. 取材组织块，经中性福尔马林充分固定后，常规石蜡包埋，切片 3-5um。
2. 石蜡切片脱蜡水化：
   ① 二甲苯脱蜡 2 次，每次 5min。
   ② 无水乙醇处理 2 次，每次 5 min。
   ③ 95%乙醇、85%乙醇、75%乙醇各 3min。
   ④ 蒸馏水浸泡 2min。
3. 苏木素染液染色 3-10min(具体时间根据染色结果和实验要求调整)，蒸馏水冲洗 5-10s。
4. （可选）分化液分化 1-5s，蒸馏水冲洗 20-30s，洗掉分化液即可。
5. 返蓝液返蓝 10s-1min，蒸馏水冲洗 20-30s，洗掉返蓝液即可。
6. 伊红染色 30s-2min(具体时间根据染色结果和实验要求调整)，蒸馏水冲洗 1-5s。
7. 脱水，透明，封片：（见注意事项 4）
   ① 75％乙醇、85%乙醇、95%乙醇和 100％乙醇（I）各浸洗 2-3s。
   ② 100％乙醇（II）浸洗 1min。
   ③ 二甲苯透明两次，每次 1min。
   ④ 中性树胶封固，镜下观察。

### （二）冰冻切片或细胞染色

1. 冰冻切片恢复室温后直接固定 3-5min，水洗 3-5min。（见注意事项 3）
2. 苏木素染色 1-2min。
3. 后续染色步骤与石蜡切片染色相同。

## 染色结果：

| | |
|---|---|
| 细胞核 | 蓝色 |
| 细胞质、纤维 | 红色 |



Tel: 400-968-6088 https://www.solarbio.com E-mail: sales-china@solarbio.com
Address: No. 85, Liandong U Valley, Middle Zone, 101102, Tongzhou Dist, Beijing, China

**注意事项：**

1. 切片脱蜡应尽量干净。系列乙醇应经常更换新液。
2. 第一次使用本试剂盒时建议先取 1-2 个样品做预实验。
3. 取材后经过固定处理的组织冰冻切片无需二次固定，未经固定处理的组织速冻切片可使用预冷的 4%多聚甲醛于 2-8℃固定 5-10min后再行染色。
4. 染色过程推荐浅染，通常只需对比清晰，能够分辨细胞核即可，颜色过深影响观察和判断。
5. 分化液的分化时间应该依据切片厚薄、组织的类别和分化液的新旧而定，建议目测切片均匀变红即可。
6. 冷冻切片各步骤染色时间建议适当缩短。
7. 为了您的安全和健康，请穿实验服并戴一次性手套操作。

**相关产品：**

*G1120　苏木素伊红(HE)染色试剂盒*
*G1125　苏木素-伊红染色液(H-E)试剂盒*
*G1150　Harris 苏木素染色液*
*G1861　酸性乙醇分化液(1%)*
*G2960　碳酸锂饱和溶液*
*G1106　去钠伊红染色液(醇溶,0.5%)*
*G2160　福尔马林固定液(10%)*
*G2161　中性福尔马林固定液(10%)*
*P1110　4％组织细胞固定液*

# Modified Hematoxylin-Eosin (HE) Stain Kit

V02

**Cat:** G1121
**Size:** 4×10mL/4×100mL
**Storage:** RT, avoid light, valid for 1 year.

## Kit Components

| Reagent | 4×10mL | 4×100mL | Storage |
|---|---|---|---|
| Reagent A: Hematoxylin Solution | 10mL | 100mL | RT, avoid light |
| Reagent B: Differentiation solution | 10mL | 100mL | RT |
| Reagent C: Bluing Solution | 10mL | 100mL | RT |
| Reagent D: Eosin Solution | 10mL | 100mL | RT, avoid light |

*Note:When the ambient temperature is low, the Bluing Solution may crystallize and precipitate. Absorb the supernatant after melting the Bluing Solution at 37 C in water bath for 10 min.*

## Introduction

Hematoxylin-Eosin stain,which also named HE stain, is the most basic method of routine section staining in pathology. Hematoxylin is an alkaline dye, which mainly dyes the basophilic substances such as chromatin in nucleus and ribosome in cytoplasm violet-blue. Eosin is an acid dye, which mainly dyes the components of eosinophilic cytoplasm and extracellular matrix red.

The dyeing steps need to be optimized according to the specific experimental samples. Different kinds of tissues or cells make different staining results which also change with their life cycle and pathological changes.The reagents in this kit are working solution, which can be used directly. Compared with the conventional kit, the new method has shorter coloring time and brighter color contrast between eosin and hematoxylin.

## Protocol( *for reference only*)

**A. For Paraffin Section Staining**

1) Fix tissue blocks , embed in paraffin and section.
2) Dewaxing and hydration of paraffin section to water.
3) Stain with Hematoxylin Solution for 3-10min(Adjust the time according to dyeing results and experimental requirements ) and wash by distilled water for 5-10s.
4) (Optional)Differentiate with Differentiation Solution for 1-5s then wash with distilled water for 20-30s.
5) Blue with Bluing Solution for 10s-1min then wash with tap water for 20-30s to remove the Bluing Solution.
6) Dye with Eosin Solution for 30s-2min(Adjust the time according to dyeing results and experimental requirements ) and wash by distilled water for 1-5s.
7) Dehydrate in alcohol (75%, 85%, 95%,100% alcohol(I)), each for 2-3s, and rinse in 100% alcohol(II)for 1 min.
8) Transparent by xylene and seal with resinene.

**B. For Frozen Section and Cell Staining**

1) Fix for 3-5min after restoring the frozen section to room temperature then wash with water for 3-5min.（See note 3).
2) Stain with Hematoxylin Solution for 1-2min。
3) Follow Paraffin Section Staining staining steps.

## Result

| | |
|---|---|
| Nucleus | Blue |
| Cytoplasm and Fibers | Red |

## Note

1. Slice dewaxing should be as clean as possible.Replace series of ethanol frequently with new liquids.
2. It is suggested to take 1-2 samples for pretest before formal test.
3. Frozen sections of already fixed tissue do not need to be fixed again. Quick-frozen tissue sections without fixation can be fixed with pre-cooled 4% paraformaldehyde in 2-8℃ for 5-10min.
4. Lightly stained hematoxylin is recommended in the dyeing process. Usually only the nucleus can be distinguished. Too deep color may affect the color of cytoplasm.



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5. The differentiation time of the differentiation solution should be determined according to the thickness of the slice, the type of tissue and the old and new of the hydrochloric alcohol differentiation solution. In addition,rinse with tap water absolutely to remove residual acids after differentiation.
6. The dyeing time of frozen section should be as short as possible.
7. For your safety and health, please wear experimental clothes and disposable gloves.