

Russell 改良 Movat 五色染色试剂盒

货号: G3701

规格: 10×50mL

保存: 2-8°C, 避光保存, 有效期1年。

产品组成:

| 名称 | | 规格 | 保存 |
|---|------------|------|-----------|
| 试剂(A):海波溶液 | | 50mL | 室温 |
| 试剂(B):阿利新蓝染色液 | | 50mL | 2-8°C, 避光 |
| 试剂(C):碱性醇溶液 | | 50mL | 室温 |
| 试剂(D): 苏木素染色工作液 | D1:苏木素染色A液 | 30mL | 室温, 避光 |
| | D2:苏木素染色B液 | 20mL | 室温, 避光 |
| | D3:苏木素染色C液 | 10mL | 室温, 避光 |
| 临用时, 按D1:D2:D3=3:2:1混合即为苏木素染色工作液, 不可预先配制。 | | | |
| 试剂(E):苏木素分化液 | | 50mL | 室温, 避光 |
| 试剂(F): 品红染色工作液 | F1:品红染色A液 | 40mL | 室温, 避光 |
| | F2:品红染色B液 | 10mL | 室温, 避光 |
| 临用时, 按F1:F2=4:1混合即为品红染色工作液, 不可预先配制。 | | | |
| 试剂(G):磷钨酸溶液 | | 50mL | 室温, 避光 |
| 试剂(H):弱酸分化液 | | 50mL | 室温 |
| 试剂(I):藏红花染色液 | | 50mL | 室温, 避光 |
| 试剂(J):Russell媒染剂 | | 50mL | 室温, 避光 |

产品介绍:

结缔组织狭义上是指其含有的三种纤维: 胶原纤维、网状纤维、弹力纤维。结缔组织染色方法亦有很多种, 如 Masson 三色染色法、Van Gieson 染色法、Gomori 氨银法、Mallory 磷钨酸苏木素染色, 然而以上染色方法只是侧重于某一两种组织的染色。Russell 改良 Movat 五色套染以其染色丰富、呈色鲜艳而大受欢迎。该染色法常用于显示动脉粥样硬化斑块。苏木素用于染细胞核和弹力纤维, 品红用于染细胞质和肌肉纤维, 藏红花染胶原组织, 阿利新蓝染基质(蛋白聚糖)。由于该试剂盒操作过程复杂, 其染色效果跟操作者经验和数量程度有很大关系, 所以同时染出十分满意的结果并不容易。

自备材料:

系列乙醇、蒸馏水、微波炉

操作步骤: (仅供参考)

1. 石蜡切片常规脱蜡, 系列乙醇水化。
2. 取适量试剂(J):Russell媒染剂(加盖)放入微波炉中, 中度加热30~60s, 立即向其中放入切片处理10min。(如条件不允许见注意事项3) 流水冲洗10min。
3. 切片滴加试剂(A):海波溶液处理5min, 蒸馏水冲洗2~3次, 每次30s。
4. 切片滴加试剂(B):阿利新蓝染色液中染色20min, 蒸馏水冲洗30s~60s。
5. 水浴锅或烘箱45~60°C预热试剂(C):碱性醇溶液后, 放入切片温育10min, 流水冲洗2~5 min。
6. 滴加预先配好的试剂(D):苏木素染色工作液覆盖切片, 避光染色 10~30min, 蒸馏水冲洗 2~3 次, 每次 30s。
7. 使用试剂(E):苏木素分化液分化 10s, 蒸馏水冲洗 10s。
8. 滴加预先配好的试剂(F):品红染色工作液覆盖切片, 避光染色 1 min。蒸馏水冲洗 2~3 次, 每次 30s。
9. 切片滴加试剂(G):磷钨酸溶液中处理 1~2min, 倾去多余染色液滴加试剂(H):弱酸分化液处理 1-2min。
10. 滴加试剂(I):藏红花染色液覆盖切片染色 3min, 倾去多余染色液, 试剂(H):弱酸分化液冲洗去除多余染色液。





11. 晾干切片，二甲苯透明，中性树胶封片。

染色结果：

| | |
|-----------|--------|
| 细胞核和弹力纤维 | 深紫色到黑色 |
| 胶原蛋白和网状纤维 | 黄色 |
| 蛋白聚糖 | 蓝色 |
| 类纤维素、纤维素 | 深红色 |
| 心肌平滑肌 | 洋红色 |

注意事项：

1. 由于染色力以及组织切片等原因，染色后未必显示出全部五种颜色，注意做防脱片处理。
2. 切片厚度一般建议 $5\mu\text{m}$ 左右。
3. 如微波炉操作不易完成，可 60°C 烘箱预热 30min 后浸入切片处理1小时，或者室温（ 25°C - 37°C ）浸泡过夜。媒染试剂建议加盖使用，使用后的试剂可回收重复使用4-6次。
4. 试剂(C):碱性醇溶液含氨成分，气味具有一定刺激性，建议在通风橱内小心操作，使用密闭容器预热。
5. 苏木素染色工作液可能在染色后形成带金属光泽的膜，水洗后形成环斑，属于正常现象不影响染色结果，分化后可去除。
6. 苏木素染色工作液染色后务必镜下控制分化程度，如出现大面积背景染色无法分化建议使用酸性乙醇分化液进行分化。
7. 这种染色法也可显示新型隐球菌，将其染成亮蓝色。



Movat-Russell Modified Pentachrome Stain Kit

Cat: G3701

Size: 10×50mL

Storage: 2-8°C, avoid light, valid for 1 year.

Kit Components

| Reagent | | 10×50mL | Storage |
|---|------------------|---------|--------------------|
| Reagent(A): Hypo Solution | | 50mL | RT |
| Reagent(B): Alcian Blue Solution | | 50mL | 2-8°C, avoid light |
| Reagent(C): Alkaline Alcohol Solution | | 50mL | RT |
| Reagent(D): Hematoxylin Working Solution | D1: H Solution A | 30mL | RT, avoid light |
| | D2: H Solution B | 20mL | RT, avoid light |
| | D3: H Solution C | 10mL | RT, avoid light |
| Before use, mix D1, D2 and D3 as the ratio of 3:2:1 to form Hematoxylin Working Solution. It is not suitable to prepare in advance. | | | |
| Reagent(E): H Differentiation | | 50mL | RT, avoid light |
| Reagent(F): Fuchsin Working Solution | E1: F Solution A | 40mL | RT, avoid light |
| | E2: F Solution B | 10mL | RT, avoid light |
| Before use, mix F1 with F2 as the ratio of 4:1 to form Fuchsin Working Solution. It is not suitable to prepare in advance. | | | |
| Reagent(G): Phosphotungstic Acid Solution | | 50mL | RT, avoid light |
| Reagent(H): Weak Acid Differentiation | | 50mL | RT |
| Reagent(I): Safran Solution | | 50mL | RT, avoid light |
| Reagent(J): Russell Mordant Solution | | 50mL | RT, avoid light |

Introduction

In a narrow sense, connective tissue refers to three kinds of fibers: collagen fiber, reticular fiber and elastic fiber. There are many staining methods for connective tissue, such as Masson Trichrome Staining, Van Gieson Staining, Gomori Ammoniacal Silver Staining, Mallory Phosphotungstic Hematoxylin Staining. However, the above staining methods only focus on one or two kinds of tissue staining. Movat-Russell Modified Pentachrome Staining is popular for its rich and bright colors. This staining method is mainly used to show atherosclerotic plaque. Hematoxylin Solution is used to dye the nucleus, Fuchsin Solution is used to dye the cytoplasm, Alcoholic Safran Solution is used to dye collagen tissue, Alcian Blue Staining Solution dye matrix (proteoglycan). Because of the complexity of the operation of the kit, its dyeing effect has a lot to do with the operator's experience and quantity, so it is not easy to dye the kit with satisfactory results at the same time.

Self Provided Materials

Series of ethanol, Distilled water, Microwave oven

Protocols(for reference only)

1. For paraffin section, conventionally dewax and dehydrate in series of ethanol.
2. Take some Russell Mordant Solution and put it into microwave oven, heat it for 30-60s moderately, and treat the section immediately for 10mins. Rinse in running water for 10mins. (See Note 3)
3. Drip and cover the section with Hypo Solution for 5min and rinse in distilled water 2-3 times for 30s each.
4. Stain the section with Alcian Blue Solution for 20mins and rinse in distilled water for 30-60s.
5. Preheat the Alkaline Alcohol Solution in a water bath or oven at 45-60 °C, and then treat the section in the Alkaline Alcohol Solution for 10min. Rinse in distilled water for 2-5min.
6. Drip and cover the section with prepared Hematoxylin Working Solution and dye avoid light for 10-30min.
7. Slightly wash in running water and rinse in distilled water 2-3 times for 30s each.
8. Decolor the section with H Differentiation for 10s, rinse with distilled water for 10s.
9. Drip and cover the section with prepared Fuchsin Working Solution and dye avoid light for 1min. Rinse in distilled water 2-3 times for 30s each.
10. Treat the section with Phosphotungstic Acid Solution for 1-2min, then treat with Weak Acid Differentiation





Solution for 1-2min.

11. Stain with Safran Solution for 3min, then wash with Weak Acid Differentiation to remove excess staining solution and air dry the slices.
12. Transparent with xylene, neutral gum seal.

Result

| | |
|--------------------------------------|----------------------|
| Nucleus and Elastic Fiber | Deep Purple to Black |
| Collagen Protein and Reticular Fiber | Yellow |
| Proteoglycan | Blue |
| Cellulose | Dark Red |
| Cardiac Muscle and Smooth Muscle | Red |

Note

1. Because of staining power and tissue type, all five colors may not be displayed after staining. Pay attention to anti stripping treatment.
2. The suggested thickness of section is about 5 μ m.
3. If the microwave operation is difficult to complete, it can be preheated in a 60 °C oven for 30 min and then immersed in slices for 1 hour, or soaked overnight at room temperature (25 °C -37 °C). Russell Mordant Solution is recommended to cover them for use. After use, the reagents can be recycled and reused 4-6 times.
4. Reagent (C): Alkaline alcohol solution contains ammonia and has a certain irritating odor. It is recommended to operate carefully in a fume hood and preheat in a sealed container.
5. Hematoxylin Working Solution may form a membrane with a metallic luster after staining, and form ring-shaped spots after washing, which is a normal phenomenon and does not affect the staining results. It can be removed after differentiation.
6. After Hematoxylin Working Solution staining, it is necessary to control the degree of differentiation under the microscope. If there is a large area of background staining that cannot differentiate, it is recommended to use different with acidic ethanol.
7. This method can show cryptococcus neoformans and dye them bright blue.

