Russell 改良 Movat 五色染色试剂盒

货号：G3701
规格：10×50mL
保存：2-8℃，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℃，避光
试剂(C):碱性醇溶液		50mL	室温
试剂(D):Weigert 苏木素染色液	D1: Weigert A	30mL	室温，避光
	D2: Weigert B	20mL	室温，避光
	D3: Weigert C	10mL	室温，避光
临用时，按D1:D2:D3=3:2:1混合即为Weigert苏木素，不可预先配制。			
试剂(E):Weigert 苏木素分化液		50mL	室温，避光
试剂(F):藏红品红染色液	F1: 藏红品红A	40mL	室温，避光
	F2: 藏红品红B	10mL	室温，避光
临用时， 按F1:F2 =4:1混合即为藏红品红染色液，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):醇藏红花染色液		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。该染色法主要用于显示动脉粥样硬化斑块。Weigert 苏木素用于染细胞核和弹力纤维，藏红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. 切片入海波溶液处理5min，蒸馏水冲洗2～3次，每次30s。
4. 切片入阿利新蓝染色液中染色20min，流水冲洗30s-60s。
5. 用水浴锅或者烘箱45～60℃预热碱性醇溶液后，将切片入碱性醇溶液中处理10min,流水冲洗2～5 min。
6. 切片入预先配制好的试剂(D)Weigert 苏木素染色液中，避光染色 10-30min。
7. 流水稍冲洗，蒸馏水冲洗 2～3 次，每次 30s。
8. 使用试剂(E)Weigert 苏木素分化液分化 10s，蒸馏水洗 10s。
9. 切片入预先配制好的试剂(F)藏红品红染色液中，避光染色 1 min。蒸馏水冲洗 2～3 次，每次 30s。
10. 将切片入试剂(G)磷钨酸溶液中处理 3-5min，直接转入试剂(H)弱酸分化液中处理 3min。
11. 蒸馏水冲洗 2～3 次，每次 30s,95%乙醇 1min，100%乙醇 2 次，每次 1min。
12. 将切片入试剂(I)藏红花染色液中，染色 3min。

13. 脱水：无水乙醇 2 次，每次 1 min。二甲苯透明，覆盖玻片。

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	红色
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. 切片厚度一般要求5μm左右。
3. 如微波炉操作不易完成，可60℃烘箱预热30min后浸入切片处理1小时，或者室温（25℃-37℃）浸泡过夜。媒染试剂容易挥发，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. Weigert苏木素染色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. Weigert苏木素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. 磷钨酸分化建议镜下控制到红细胞呈正红色，背景呈洋红色，胶原纤维和弹力纤维出现明显颜色差异为止，可适当延长分化时间。
8. 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℃, avoid light, valid for 1 year.

Kit Components

Reagent		10×50mL	Storage
Reagent(A): Hypo Solution		50mL	RT
Reagent(B): Alcian Blue Staining Solution		50mL	2-8℃, avoid light
Reagent(C): Alkaline Alcohol Solution		50mL	RT
Reagent(D):Weigert Hematoxylin Solution	D1: WH Soulution A	30mL	RT, avoid light
	D2: WH Soulution B	20mL	RT, avoid light
	D3: WH Soulution C	10mL	RT, avoid light
Before use, mix D1, D2 and D3 as the radio of 3:2:1 to form Weigert Hematoxylin Solution. It is not suitable to prepare in advance.			
Reagent(E): WH Differentiation		50mL	RT, avoid light
Reagent(F): Biebrich Scarlet – Acid Fuchsin Solution	E1: BS-AF Solution A	40mL	RT, avoid light
	E2: BS-AF Solution B	10mL	RT, avoid light
Before use, mix E1 with E2 as the radio of 4:1 to form Biebrich Scarlet-Acid Fuchsin Solution. It is not suitable to prepare in advance.			
Reagent(G): Phosphotungstic Acid Solution		50mL	RT, avoid light
Reagent(H): Weak Acid Differentiation Solution		50mL	RT
Reagent(I): Alcoholic 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 Phosphotungstate 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. Weigert Hematoxylin Solution is used to dye the nucleus, Biebrich Scarlet-Acid 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 a proper amount of 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. Treat the section in Hypo Solution for 5min and rinse in distilled water 2-3 times for 30s each.
4. Stain the section in with Alcian Blue Staining Solution for 20mins and rinse in distilled water for30-60s.
5. Preheat the Alkaline Alcohol Solution in a water bath or oven at 45-60 ℃, and then treat the section in the Alkaline Alcohol Solution for 10min.Rinse in distilled water for 2-5min.
6. Add the section in prepared Weigert Hematoxylin 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 WH Differentiation for 10s,rinse with distilled water for 10s.
9. Add the section in prepared Biebrich Scarlet-Acid Fuchsin Solution and dye avoid light for 1min.Rinse in distilled water 2-3 times for 30s each.
10. Treat the section in Phosphotungstic Acid Solution for 3-5min and directly treat in Weak Acid Differentiation

Solution for 3min. Rinse in distilled water 2-3 times for 30s each.

11. Dehydrate: 95% ethanol for 1min, 100% ethanol 2 times for 1min each .
12. Stain with Alcoholic Safran Solution for 3min.
13. Dehydrate: absolute ethanol 2 times each for 1min. Transparent in xylene and seal.

Result

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

Note

1. Because of staining power and tissue section, all five colors may not be displayed after staining. Pay attention to anti stripping treatment.
2. The thickness of section is about 5μm, and the differentiation of elastic fiber is usually completed within 2-3min.
3. It is very important to wash with water to remove the Weigert Hematoxylin Solution. If the washing is not enough, the subsequent dyeing steps will be inhibited.
4. This method can show cryptococcus neoformans and dye them bright blue.