V02

Goldner 三色染色试剂盒

货号：G3550
规格：6×50mL/6×100mL
保存：室温，避光保存，有效期1年。

产品组成：

名称		6×50mL	6×100mL	保存
试剂(A): Weigert 铁苏木素染色液	A1:Weigert染液A	25mL	50mL	室温，避光
	A2:Weigert染液B	25mL	50mL	室温，避光
临用前，取A1、A2等量混合即为Weigert铁苏木素染色液，不宜提前配制。				
试剂(B): 酸性分化液		50mL	100mL	室温
试剂(C): Acid Ponceau染色液		50mL	100mL	室温，避光
试剂(D):弱酸溶液		50mL	100mL	室温
试剂(E): Orange G染色液		50mL	100mL	室温，避光
试剂(F):亮绿染色液		50mL	100mL	室温，避光

产品介绍：

骨染色方法有很多种，例如甲苯胺蓝法、阿利新蓝法、番红 O 法、Goldner 三色染色法等。Goldner 三色染色又称戈德纳三色染色，与 Masson 三色染色类似，三色染色通常是指染胞核和能选择性的显示胶原纤维和肌纤维。 该试剂盒多用于骨类物质的染色，对细胞染色效果较好，尤其适用于代谢性疾病(Paget 病、骨性营养不良等)的研究，以评估成骨细胞和破骨细胞的活性，并容易辨认骨髓中的转移性肿瘤细胞。

自备材料：

系列乙醇、蒸馏水

操作步骤：(*仅供参考*)

1. 切片二甲苯脱蜡或有机溶剂脱塑，梯度乙醇复水。
2. 入配制好的Weigert铁苏木素浸染15-20 min，取出后用流水冲洗1min。
3. 滴加酸性分化液迅速分化(一般＜5s)，蒸馏水洗1min。
4. 滴加Acid Ponceau染色液染色5min。
5. 在上述过程中按蒸馏水:弱酸溶液=4:1 比例配制弱酸工作液，用弱酸工作液洗 15～30s。
6. 滴加 Orange G 染色液染色，直至胶原纤维红色脱色，一般需要 3～10min。（见注意事项 5）
7. 用配制好的弱酸工作液冲洗 15～30s。
8. 直接滴加亮绿染色液染色 5min，用配制好的弱酸工作液冲洗 3 次，每次 15s。
9. 吸干或晾干，无水乙醇快速脱水，中性树胶封固。

染色结果：

新生骨	橘红色-红色
类骨质	紫色
成熟骨	绿色
细胞核	蓝色-灰色

注意事项：

1. 切片脱蜡应尽量干净。固定起着重要的作用，使用不同的固定液可延长或缩短染色时间。
2. 取A1、A2等量混合即为 Weigert铁苏木素染液，一般24h失去染色力。
3. 酸性分化时间应根据切片厚薄、组织的类别和新旧而定。
4. 弱酸溶液可使色彩更清晰鲜艳，如使用量大可自行配制0.1～1%乙酸溶液予以替代。
5. Orange G染色液染色时在镜下控制，以丽春红脱去为准。如用于含锌-镁等活泼金属植入物样本可省略此步，然后延长亮绿染色时间到10min。

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Goldner Trichrome Stain Kit

Cat: G3550
Size: 6×50mL/6×100mL
Storage:RT, avoid light, valid for 1 year.

Kit Components

Reagent		6×50mL	6×100mL	Storage
Reagent(A):Weigert Iron Hematoxylin Solution	A1:Weigert Solution A	25mL	50mL	RT, avoid light
	A2:Weigert Solution B	25mL	50mL	RT
Mix equal parts of A1 and A2 to form Weigert Iron Hematoxylin Solution before use.				
Reagent(B): Acid Differentiation Solution		50mL	100mL	RT
Reagent(C): Acid Ponceau Solution		50mL	100mL	RT, avoid light
Reagent(D): Weak Acid Solution		50mL	100mL	RT
Reagent(E): Orange G Solution		50mL	100mL	RT, avoid light
Reagent(F): Light Green Solution		50mL	100mL	RT, avoid light

Introduction

There are many methods of bone staining, such as Toluidine Blue method, Alician Blue method, Saffron O method, Goldner Trichrome method and so on. Goldner Trichrome Staining is similar to Masson Trichrome Staining. Trichrome staining usually refers to staining the nucleus and selectively displaying collagen and muscle fibers. This kit is mainly used for staining bone substances and has good effect on cell staining, especially for the study of metabolic diseases (Paget disease, osteodystrophy, etc.), so as to evaluate the activity of osteoblasts and osteoclasts, and easily identify the metastasis tumor cells in bone marrow.

Self Prepared Materials

Series of ethanol, Distilled water

Protocols(*for reference only*)

1. Slices are dewaxed with xylene or plasticized with organic solvents, and rehydrated with gradient ethanol.
2. Dye with prepared Weigert Iron Hematoxylin Solution for 15-20 min and rinse with running water for 1 min.
3. Quickly differentiate with Reagent(B): Acid Differentiation Solution (generally<5 s). Wash with distilled water for 1min
4. Add Acid Ponceau Solution for 5 min.
5. During the above process, prepare a weak acid working solution in a ratio of 4:1 distilled water to Weak Acid Solution , and wash with the weak acid working solution for 15- 30 s.
6. Add Orange G Solution til the collagen fibers become red, usually taking 3-10 min. (See Note 5)
7. Rinse with prepared weak acid working solution for 15- 30 s.
8. Dye directly in Reagent(F): Light Green Solution for 5 min, and rinse 3 times with prepared weak acid working solution for 15 s each time.
9. Absorb or air dry, dehydrate with anhydrous ethanol, and seal with resinene.

Result

Neonatal bone	Orange-Red
Osteoid	Purple
Mature bone	Green
Nucleus	Blue-Grey

Note

1. Section dewaxing should be as clean as possible. Fixation plays an important role. According to different fixatives, can prolong or shorten the dyeing time.
2. The Weigert Iron Hematoxylin Solution is ready to use, which generally loses its dyeing power for 24 h.
3. The differentiation time of Acid Differentiation Solution should be determined according to the thickness of slice, the type of tissue and the old and new.
4. Weak Acid Solution can make the color more clear and bright. If the use amount is large, can repalce with 0.1-1% acetic acid solution.
5. Orange G Solution staining is controlled under the microscope, subject to the removal of Acid Ponceau Solution.If used for samples containing active metal implants such as zinc magnesium, this step can be omitted, and then the bright green staining time can be extended to 10 min.