

## 甲酸脱钙液

货号: G2490

规格: 500mL

保存: 室温, 避光保存, 有效期 1 年。

### 产品介绍:

在组织切片过程中, 一些组织内含有骨质或钙化灶时, 含钙的组织不宜直接用石蜡包埋切片。这是因为钙和石蜡之间的密度不同, 较难切出完整的切片。对含钙组织最好固定之后, 再进行脱钙或二者同时进行。然后进行下游操作如脱水、透明、浸蜡、包埋、切片。用于脱钙的试剂很多, 脱钙剂包括有机酸、无机酸、乙二胺四乙酸(EDTA)以及电解法脱钙。在有机酸中, 甲酸、乙酸比较适合于骨髓组织脱钙。甲酸脱钙液是一种使用范围广泛的脱钙剂, 但是该法脱钙速度太慢, 不适合密皮骨质的脱钙。

甲酸脱钙液主要由甲酸、福尔马林等组成。其优点: ①对细胞核染色结果较好; ②兼具脱钙和组织固定的作用; ③适用于小块组织和牙齿的脱钙。其缺点: ①脱钙速度比较慢, 不适合常规标本脱钙使用; ②不适合密皮骨质脱钙使用; ③脱钙后需要硫酸钠溶液进行碱处理。

### 自备材料:

PBS、蒸馏水、G3420-5%硫酸钠溶液

### 操作步骤: (仅供参考)

- 1、骨组织脱钙时, 取材不易过厚, 一般大约5mm。
- 2、组织固定后, 用PBS清洗3次, 每次20min。
- 3、组织用蒸馏水清洗3次, 每次20min。
- 4、组织转移至20~30倍体积的甲酸脱钙液中, 脱钙3~10天或更长时间。如有必要, 更换新的甲酸脱钙液继续脱钙直至终点, 多数组织脱钙1周即可。
- 5、用蒸馏水冲洗数次。
- 6、组织立即入5%硫酸钠溶液进行碱处理。
- 7、充分流水冲洗18h以上。
- 8、常规脱水、包埋。

### 注意事项:

- 1、厚度5mm的骨组织块脱钙时间一般脱钙3~10天即可。
- 2、脱钙应彻底, 防止脱钙不足或过度。脱钙程度应控制在不影响组织切片的同时尽量缩短脱钙时间, 以免脱钙过长引起组织损害。
- 3、骨组织脱钙应先固定后脱钙或脱钙固定同时进行, 不应先脱钙后固定, 以便减少组织的损伤程度。
- 4、每隔一段时间检测一次脱钙程度, 脱钙过度会增加组织的损伤程度, 影响染色结果。
- 5、为了您的安全和健康, 请穿实验服并戴一次性手套操作。

### 附录:

脱钙终点的测定(物理法): 采用针刺、手掐、钳夹等方法, 当骨组织变软或针刺时没有阻力感即可终止脱钙。物理检测法会对组织结构有一定的损害, 尽量避免用力过大或反复检测。

# Formate Decalcifying Solution

**Cat:**G2490

**Size:**500mL

**Storage:** RT, avoid light, valid for 1 year.

## Introduction

In the process of tissue sectioning, when some tissues contain bone or calcification, the tissue containing calcium should not be directly embedded in paraffin. This is because the density between calcium and paraffin is different, it is difficult to cut a complete section. It is better to fix the calcium containing tissue before decalcification or conduct both at the same time. Then continue operations such as dehydration, transparency, wax immersion, embedding and slicing. There are many decalcification reagents, including organic acid, inorganic acid, EDTA and electrolytic decalcification. Among organic acids, formic acid and acetic acid are more suitable for decalcification of bone marrow. Formate Decalcifying Solution is a widely used decalcification agent, but the decalcification speed of this method is too slow, which is not suitable for the decalcification of dense skin bone.

Formate Decalcifying Solution is mainly composed of formic acid and formalin. Its advantages: ① it has a good result of nuclear staining; ② it has the function of decalcification and tissue fixation; ③ it is suitable for decalcification of small tissues and teeth. Its disadvantages: ① the speed of decalcification is relatively slow, which is not suitable for the use of conventional specimen decalcification; ② it is not suitable for the use of dense skinned bone decalcification; ③ it needs sodium sulfate solution for alkali treatment after decalcification.

## Self Provided Materials

PBS, Distilled Water, G3420-5% Sodium Sulfate Solution.

## Protocol(for reference only)

1. When the bone tissue is decalcified, pick up the material avoiding too thick, generally about 5mm.
2. After fixing the tissue, wash with PBS for three times and each time for 20 min.
3. Wash the tissue with distilled water for three times and each time for 20 min.
4. Transfer the tissue to 20-30 times volume of Formate Decalcifying Solution and decalcify for 3-10 days or more. If necessary, replace with a new Formate Decalcifying Solution and continue to decalcify until the end point. Most tissues can decalcify for one week.
5. Rinse several times with distilled water.
6. Put the tissue into 5% Sodium Sulfate Solution immediately for alkali treatment.
7. Rinse completely with water for more than 18h.
8. Conventional dehydration and embedding.

## Note

1. The decalcification time of 5 mm thick bone tissue block is generally 3-10 days.
2. Decalcification should be thorough to prevent insufficient or excessive decalcification. The degree of decalcification should be controlled to shorten the decalcification time as much as possible without affecting the tissue section, so as to avoid tissue damage caused by too long decalcification.
3. It is better to fix the calcium containing tissue before decalcification or conduct both at the same time in order to reduce the degree of tissue damage.
4. The degree of decalcification should be detected in a while. Excessive decalcification will increase the degree of tissue damage and affect the staining results.
5. For your safety and health, please wear experimental clothes and disposable gloves.

## Appendix

Determination of the end point of decalcification (physical method): acupuncture, hand pinching, clamp and other methods are used to stop decalcification when the bone tissue becomes soft or there is no sense of resistance during acupuncture. Physical detection will damage the tissue structure to some extent, and try to avoid excessive force or repeated detection.