

AFIP 甲酸-柠檬酸脱钙液

货号: G2480

规格: 2×500mL

保存: 室温, 避光保存, 有效期 1 年。

产品组成:

名称	2×500mL	保存
试剂(A): AFIP 甲酸溶液	500mL	室温, 避光
试剂(B): 柠檬酸钠溶液	500mL	室温, 避光
临用前, 取 A、B 等量混合, 即为 AFIP 甲酸-柠檬酸脱钙液。		

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) 以及电解脱钙。AFIP 甲酸-柠檬酸液主要由甲酸、枸橼酸钠等组成, 其原理在于柠檬酸钠可以螯合钙离子, 等量混合使用。

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 AFIP 甲酸-柠檬酸液中, 每日更换 1 次。
- 5、用蒸馏水冲洗数次。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 3-7 天即可。
- 2、适当加温能加快脱钙的速度, 一般维持在 37-40°C, 温度过高容易使骨组织松散解体, 尤其切忌大于 60°C。
- 3、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。
- 4、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。
- 5、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。
- 6、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-Citric Acid Decalcifying Solution

Cat: G2480

Size: 2×500mL

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

Kit Components

Reagent	2×500mL	Storage
Reagent(A): AFIP Formic Acid Solution	500mL	RT, avoid light
Reagent(B): Sodium Citrate Solution	500mL	RT, avoid light
Before use, mix A with B in equal amount to form AFIP Formic Acid-Citric Acid Solution.		

Introduction

In the process of tissue cutting, 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. Formate-Citric Acid Decalcifying Solution is mainly composed of formic acid, sodium citrate, etc. Its principle is that sodium citrate can chelate calcium ion and be mixed in equal amount.

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-Citric Acid Decalcifying Solution and replace the solution once a day.
5. Rinse several times with distilled water. Conventional dehydration and embedding.

Note

1. The decalcification time of 5 mm thick bone tissue block is generally 3-7 days.
2. Proper heating can speed up decalcification, generally maintain at 37-40°C, too high temperature is easy to cause bone tissue loose disintegration, especially avoid over 60 °C.
3. 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.
4. 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.
5. Decalcification and fixation should not be carried out first in order to reduce the degree of tissue damage.
6. The degree of decalcification should be detected in a while.
7. 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.