V02

柠檬酸盐脱钙液

货号：G2700
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。

柠檬酸盐脱钙液是缓冲脱钙液，属于缓慢脱钙液，主要由柠檬酸、柠檬酸盐、硫酸锌等组成。其优点是：①经柠檬酸盐脱钙液的组织染色结果好；②对组织的结构损害小。其缺点是：①脱钙速度很慢，不适合常规标本脱钙使用；②脱钙后组织会稍微变硬。该试剂仅用于科研领域，不宜用于临床诊断或其他用途。

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。组织用蒸馏水洗清洗 3 次。
3. 组织转移至 20~30 倍体积的柠檬酸盐脱钙液中，脱钙 10 天或更长时间。如果想加快脱钙速度，可以置于 37℃进行脱钙。如果必要，更换新的柠檬酸盐脱钙液继续脱钙，多数组织脱钙 2 周～3 个月即可，每周更换一次直至终点。
4. 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 10~30 天即可，大多数在 14～60 天即可。
2. 适当加温能加快脱钙的速度，一般维持在 37～40℃，温度过高容易使骨组织松散解体，尤其不可大于 60℃。
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. 脱钙用具避免使用金属容器，尽量使用玻璃容器。
5. 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。
6. 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。
7. 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。

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Citrate Decalcification Solution

Cat: G2700
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.

Citrate Decalcification Solution is a kind of buffer decalcification solution, which is composed of citric acid, citrate, zinc sulfate and so on. The advantages are: ① the result of staining is good; ② the damage to tissue structure is small. The disadvantages are: ① the speed of decalcification is very slow, which is not suitable for the use of conventional specimen decalcification; ② the tissue will be slightly hard after decalcification. The solution is only used in scientific research and not suitable for clinical diagnosis or other purposes.

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.Wash with distilled water for three times.
3. Transfer the tissue to 20-30 times volume of Citrate Decalcification Solution and decalcify for 10 days or more. If you want to speed up the decalcification, you can put it at 37 ℃. If necessary, replace the new Citrate Decalcification Solution to continue decalcification. Most of the tissue decalcify for 2 weeks to 3 months, replace the solution once a week until the end point.
4. Rinse several times with distilled water.Conventional dehydration and embedding.

Note

1. The decalcification time of 5 mm thick bone tissue block is generally 10-30 days. Most for 14-60 days.
2. Proper heating can speed up decalcification, generally maintain at 37-40 ℃, too high temperature is easy to cause bone tissue loose disintegration, especially avoid over 60 ℃.
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. Avoid using metal containers for decalcification appliances, and try to use glass containers.
5. 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.
6. The degree of decalcification should be detected in a while. Excessive decalcification will increase the degree of tissue damage and affect the staining results.
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.