

电解脱钙液(甲酸法)

货号: G2672

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。

电解脱钙液的优点: ①脱钙速度快; ②适用于大多数组织的脱钙。其缺点: ①对组织有一定的损害; ②脱钙后需要硫酸钠溶液进行碱处理。

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。
- 3、组织用蒸馏水洗清洗 3 次。
- 4、安装电解装置: 取铂金丝一根, 将标本用铂金丝一端缠绕数圈, 置于容器底部一侧, 铂金丝另一端连接电源正极。在容器的另一侧将一只钢片或炭精棒的下端插入容器内, 上段与电源负极相连。
- 5、加入电解脱钙液, 置于恒温水浴箱中。一般采用直流电源 6V, 如有整流器可调至 8~10V。
- 6、用流水冲洗数小时。
- 7、入 5%硫酸钠溶液进行碱处理。
- 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 10min~3h 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。

Electrolytic Decalcifying Solution(Formic Acid Method)

Cat: G2672

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.

The advantages of electrolytic decalcification solution are: ① rapid decalcification; ② suitable for most tissues. The disadvantages are: ① damage the tissue to some extent; ② it is need to carry out alkali treatment with sodium sulfate solution after decalcification.

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.
3. Wash the tissue with distilled water for three times.
4. Installation of electrolysis device: take one platinum wire, wrap the sample with one end of platinum wire for several turns, place it on one side of the bottom of the container, and connect the other end of the platinum wire with the positive pole of the power supply. On the other side of the container, insert the lower end of a steel sheet or carbon rod into the container, and connect the upper section with the negative pole of the power supply.
5. Add Electrolytic Decalcification Solution and place it in the constant temperature water bath. Generally, the DC power supply is 6V, and if there is a rectifier, can adjust to 8-10V.
6. Rinse with running water for several hours.
7. Add 5% sodium sulfate solution for alkali treatment.
8. Conventional dehydration and embedding.

Note

1. The decalcification time of 5 mm thick bone tissue block is generally 10min-30 hours.
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.