

EDTA Decalcifying Solution

Cat #: A-CSH495

Size: 500mL

Storage: Room temperature (12 months)

Product Description

During the tissue sectioning process, some calcium-containing tissues cannot be directly sliced due to the different densities between calcium and paraffin, making it challenging to obtain complete sections. To achieve thorough decalcification of bone tissue while preserving the tissue antigens, it is necessary to perform decalcification after tissue fixation or use a liquid treatment that combines fixation and decalcification, followed by routine sectioning. There are various reagents available for decalcification, including organic acids, inorganic acids, and ethylenediaminetetraacetic acid (EDTA). EDTA is a relatively effective chelating decalcifying agent that minimally affects tissue structure and can preserve certain enzymes in the tissue. Tissues decalcified with EDTA can be used for immunohistochemistry and in situ hybridization. However, this method has a slow decalcification rate, typically taking several weeks to months.

EDTA Decalcification Solution mainly consists of EDTA, phosphate, and has a pH value of 7.2. It provides good tissue staining results with minimal damage to tissue structure. However, the decalcification speed with EDTA is slow, and the tissue may become slightly harder after decalcification.

Usage

1. For decalcifying bone tissue, the sample thickness should not exceed approximately 5mm.
2. After tissue fixation, wash the tissue three times with PBS for 20 minutes each time.
3. Rinse the tissue three times with distilled water for 20 minutes each time.
4. Transfer the tissue to EDTA Decalcification Solution at a volume ratio of 20-30 times the tissue volume and decalcify for 10-30 days or longer. If a faster decalcification rate is desired, the solution can be placed at 37°C. If necessary, replace the EDTA Decalcification Solution with fresh solution and continue decalcification. Most tissues require 2 weeks to 3 months for decalcification, with weekly solution changes until the endpoint is reached.

5. Rinse the tissue several times with distilled water.
6. Perform routine dehydration and embedding

Notes

1. Bone tissue blocks with a thickness of 5mm generally require 10-30 days for decalcification.
2. Gentle heating can accelerate the decalcification process but should not exceed 37-40°C. Higher temperatures can cause bone tissue to become loose and disintegrate, especially temperatures exceeding 60°C.
3. Decalcification should be thorough to prevent insufficient or excessive decalcification. While minimizing the impact on tissue sectioning, it is important to shorten the decalcification time. Periodically assess the degree of decalcification to avoid over-decalcification, which can increase tissue damage and affect staining results. Avoid prolonged decalcification that may cause tissue damage.
4. Avoid using metal containers for decalcification and prefer glass containers whenever possible.
5. For decalcification of bone tissue, perform fixation before decalcification or perform fixation and decalcification simultaneously. Avoid decalcification prior to fixation to minimize tissue damage.
6. For your safety and health, please wear laboratory attire and disposable gloves when handling.

Disclaimer

For your safety and health, please wear a lab coat and disposable gloves while handling.