

# Poly-NoCal & Fixative Decalcifying Solution

## Poly-NoCal Decalcifying Solution

### Background

The object of decalcification is to remove from the tissue the lime salts with which it is impregnated and which would otherwise make it impossible to cut the bone into sections.<sup>1</sup>

**Poly-NoCal & Fixative**, Cat.#24163, is a formic acid and formaldehyde based solution that fixes and decalcifies in one step. Small histological specimens, such as bone marrow, will achieve softening sufficient for sectioning in less than four hours. Large bone sections may require addition fixation after decalcification. Formic acid-based decalcifier can be used for immunoperoxidase staining without significant loss of immunoreactivity.<sup>2</sup> Most importantly, Poly-NoCal will not destroy diagnostic features of red blood cells, muscle tissue, cancer cells or blood vessel wall elastic tissue.

**Poly-NoCal**, Cat.#24164, is a hydrochloric acid/EDTA formula that removes calcium from tissue using both a chelating and acid reaction. Buffers are also included in this solution to help prevent cellular swelling or distortion. This solution is a more rapid decalcifier used on fixed tissue sections. To ensure adequate fixation and decalcification, tissue selected should not exceed 4 to 5 mm in thickness. Prolonged decalcification interferes with nuclear and cytoplasmic staining.

Tissue should not remain in Poly-NoCal solutions for more than 48 to 72 hours without testing. This is important because overdecalcification cannot be rejuvenated.

### Method Poly-NoCal & Fixative:

1. Needs no prefixation, large bone specimens may need additional fixation after decalcification.
2. Immerse the fresh or fixed bone specimen in Poly-NoCal & Fixative. Using a volume 10 to 20 times the volume of the specimen.
3. Check the bone specimen, periodically for decalcification. Time is dependent on size and weight of bone.<sup>4</sup>
4. The control of decalcification is very important to obtain well stained sections.<sup>1</sup> Use Poly-NoCal Endpoint Determination Kit \*
5. Stirring accelerates decalcification.
6. Change the solution daily. Never add fresh solution to old.
7. At the end of the day, if decalcification is almost complete and you do not want to overdecalcify, remove from solution. Place specimens in a Peel-A-Way Tissue Capsule. Wash in water and immerse in fixative, next day repeat from Step 2.

### Method Poly-NoCal:

1. Fix specimen for 24 hours in one of these suggested fixatives: 10 % Neutral Buffered Formalin (NBF), Bouin's fixative, or Zinc Formalin.
2. Rinse section in water for approximately 3 minutes before immersion in Poly-NoCal.<sup>3</sup>
3. Immerse the fixed bone specimen in Poly-NoCal. Using a volume 10 to 20 times the volume of the specimen.
4. Check the bone specimen, periodically for decalcification. Time is dependent on size and weight of bone.<sup>4</sup>
5. The control of decalcification is very important to obtain well stained sections.<sup>1</sup> Use Poly-NoCal Endpoint Determination Kit \*
6. Stirring accelerates decalcification.
7. Change the solution daily. Never add fresh solution to old.
8. At the end of the day, if decalcification is almost complete and you do not want to overdecalcify, remove from solution. Place specimens in a Peel-A-Way Tissue Capsule. Wash in water and immerse in fixative, next day repeat from Step 2.

**After decalcification is completed, wash in running water. Bone specimens may then be handled as routine tissue.**

**Comments:**

Decalcification times are approximate.  
 For in vitro diagnostic and laboratory use.  
 Store at room temperature, 15° to 30° C.

**Ordering Information:**

Cat.#	Description	Size
24163	Poly-NoCal & Fixative	1 liter
24164	Poly-NoCal	1 liter
24119	Poly-NoCal Endpoint Determination Kit*	1 kit

**Related Product:**

Cat.#	Description	Size
16045	Bouin's Fixative	8 x 470ml
19802A	Tissue Capsules, Peel-A-Way Ideal for decalcifying, allowing specimen identification of large pieces of bone. Resistant to most chemicals and acids used in processing. Provides three compartments for average size specimens and a removable divider for larger (34mm) specimens.	12/carton



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In Germany Call: (49) 6221-765767  
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Order online anytime at [www.polysciences.com](http://www.polysciences.com)

\*For more information about Poly-NoCal Endpoint Determination Kit request Data Sheet # 524.

**References:**

1. Clayden EC; J. Med. Lab. Tech., **10**(3):103-123, 1952.
2. Mukai K, Yoshimura S, Anzai M; Am J Surg. Pathol., **10**(6):413-9, 1986.
3. Carson FL; J. Histotechnology, **1**(5):174-5, 1978.
4. Villanueva AR; J. Histotechnology, **9**(3):155-61,1986.

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