

Immunohistochemistry and Hematoxylin and Eosin on the Same Slide

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Small tissues are always difficult to work with. The limited size often leads to many technical problems. In spite of the care normally given to a specimen, the unthinkable can happen. A block may be cut through, slides may be broken, and sections may fall off. When this type of tragedy occurs, the creativity and technical abilities of a histology technician are often tested.

An example of this occurred when a technician was cutting a prostate biopsy. Two slides were taken, with two sections on each. The slides were taken, with two sections on each. The slides were stained with hematoxylin and eosin (H&E), and coverslipped with a Tissue Tek automatic coverslipper. This coverslipper uses a plastic film, which causes the film to adhere to the slide with xylene. The slides were then given to the pathologist who then requested an immunohistochemical (IHC) test to be performed. In the process, the specimen was exhausted.

The pathologist needed one H&E for the files of the laboratory and one to be sent to the physician. The lab could not even destain one of the slides to use for the test. The test had to be done for a final diagnosis to be made. To send an H&E out, retain an H&E for file and still have some sample to stain one of the sections needed to be used or the patient would need to have the biopsy repeated. A common method to do this is a procedure called a lift off where one section is removed from a slide. The section is then transferred to another slide. Often this procedure causes the sections to fall off the slide rendering it useless. As there was precious little sample left this could not be considered.

The solution was to cut the coverslip and remove the bottom half using a solution of 50% acetone and 50% xylene. This would reveal the bottom section while leaving the top covered and therefore protected by the plastic film. The bottom section could now be stained with the requested IHC test, which fortunately did not require heat induced epitope retrieval that would have distorted the plastic coverslip protecting the top section. The standard protocol for the test was followed. The section was counterstained, dehydrated, and cleared to xylene. At this point, the top part of the coverslip was removed as described above. A new coverslip was placed on covering both sections.

The pathologist was content, as was the physician. Most importantly the patient did not need to be rebiopsied. Creativity in the laboratory saved the day. ■

References:

O.V. Slayden, Tekehiki Koji and Robert Brenner. Microwave stabilization enhances Immucytochemical detection in Frozen sections. *Endocrinology* 136:4012-4021.

Boon and Kok. *Microwave Cookbook for Pathology*, Second Edition

Login G.R., Dvorak A.M., 1988. Microwave fixation provides excellent preservation of tissue, cells and antigens for light and electron microscopy. *Histochem J* 20.373-387.

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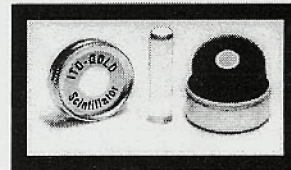
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