

PAP Pen Liquid Blocker – Technical Memo

PRODUCTS:

PAP Pen Liquid Blocker
PAP Pen Liquid Blocker, Mini

Each or 6/Set

Part 6505
Part 6506

APPLICATION:

Newcomer Supply PAP Pen Liquid Blocker, hydrophobic slide markers for staining procedures, when applied around tissue sections or smears on a microscopic slide will create a visible thin hydrophobic barrier that provides proper surface tension to hold reagents within a targeted area. This surface tension ensures that the amount of reagent needed for sufficient reaction is greatly reduced and is retained for complete tissue section coverage. Multiple specimens can be separated by drawn circles or lines applied to the same slide.

PAP Pen Liquid Blockers contain a unique formulation that is water repellent, insoluble in alcohol and acetone and soluble in xylene. The PAP Pen Liquid Blocker, Mini provides a finer pen tip for drawing a thinner barrier film.

METHOD:

Technique: Paraffin, frozen sections and smears

- Manual staining for:
 - Immunohistochemistry (IHC) procedures
 - Immunofluorescence procedures
 - *In-Situ* Hybridization procedures
 - Enzyme procedures

PROCEDURE:

1. Initial use; vigorously shake the pen to ensure even distribution of contents then gently press the PAP Pen tip straight down several times on a paper towel or until fluid begins to visually soak the tip.
2. Practice applying a thin PAP Pen liquid barrier on a test slide that will dry to a film. Applying too much pressure may result in excess barrier solution being released creating a wider film that may touch edges of the tissue section.
 - a. See Procedure Note #1.
3. Store PAP Pen Liquid Blocker tightly capped; vertically with tip end down.
4. **Paraffin Section Method:**
 - a. Deparaffinize sections thoroughly in three changes of xylene, 3 minutes each. Hydrate through two changes each of 100% and 95% ethyl alcohols, 10 dips each. Wash well with distilled water.
 - b. For trypsinization or other proteolytic digestion, apply PAP Pen barrier film after completion of those steps.
 - c. Remove the slide from water or buffer; blot excess solution from the slide and around tissue section with water absorbent materials. Or place long edges of the slide on absorbent material to remove excess moisture.
 - d. The liquid barrier can be drawn on a slightly damp slide.
 - e. Encircle the tissue section(s) on the slide surface with the PAP Pen as illustrated. Take care not to touch the pen to any edge of the tissue section(s).
 - f. See Procedure Note #2.
5. **Frozen Section and Smear Method:**
 - a. Encircle the frozen tissue section(s) or smear on the slide surface at room temperature with the PAP Pen as illustrated. Take care not to touch the pen to any edges of the tissue section(s) or smear.
 - b. See Procedure Note #2.
 - c. The PAP Pen barrier should be applied before fixation or prior to the immersion of the slide into water or buffer.

6. After liquid barrier application, allow the slide to dry in a flat position for approximately 1 minute at room temperature. Proceed with staining procedure when the drawn barrier has completely dried.
 - a. See Procedure Note #3.
7. Drain/rinse reagents off between staining steps; blotting slide and tissue as needed to remove excess solution.
 - a. See Procedure Note #4.
8. Complete staining process and coverslip with a compatible mounting medium. The barrier film will not affect the coverslipping procedure.

PROCEDURE NOTES:

1. Once a tissue section is touched with PAP Pen liquid barrier it cannot be removed. The section remains useable but a slight colorization will result on the touched portion of tissue.
2. If the tissue section is not completely encircled or segregated by the PAP Pen Liquid Blocker barrier film, reagents will not be fully retained on the tissue section and will flood out onto the slide. This may compromise complete and adequate tissue coverage by reagents.
3. If liquid barrier lines are not completely dry prior to staining, a precipitate from reaction with detection reagents may occur.
4. The use of a Slide Moisture Chamber or StainTray™ (Part 68431, 6848 or 6847) is recommended for manual staining to maintain slide organization and a moist environment during the staining process.
5. PAP Pen Liquid Blockers are temperature resistant up to 120°C.

REFERENCES:

1. Grizzle, William, Cecil Stockard, and Paul Billings. "The Effects of Tissue Processing Variables Other Than Fixation on Histochemical Staining and Immunohistochemical Detection of Antigens." *The Journal of Histotechnology* 24.3 (2001): 213-219.
2. Vidwans, Malavika, Srinivas Mandavilli, Wanda Nethers, and Richard Cartun. "Fine-Needle Aspiration Diagnosis of a Neck Mass Using Immunocytochemical Stains Performed on Stained Cytology Slides." *The Journal of Histotechnology* 25.4 (2002): 275-277.
3. Modifications developed by Newcomer Supply Laboratory.

