



## Slide Cleaning with Wheaton Staining Dishes

### Abstract

Clean microscope slides are important for all areas of microscopy. Even pre-cleaned slides can carry a significant amount of oil or lint, even from a freshly opened box.

Wheaton staining dishes offer a convenient method to efficiently clean a number of slides as an initial preparation for coating slides or for microscopy.

### Materials and Methods

Material	Quantity	Cat. No.
Glass Microscope Slides	60	—
30-Slide Rack, Stainless Steel	1	900234
Staining Dish & Cover	2	900303
Double Distilled Water	5 liters	—
Solid NaOH	70 g	—
95% Ethanol	420 mL	—
Drying Oven*	1	—
Orbital Shaker	1	—

\*45°C-vacuum oven preferred

### Procedure

1. Prepare the cleaning solution by dissolving 70 g NaOH in 28 mL double distilled water. Add 420 mL 95% ethanol. If the solution is cloudy, add double distilled water until the solution clears.
2. Place the slides in a stainless steel rack and the rack in the staining dish. Pour the cleaning solution from Step 1 over the slides so the slides are covered. Cover the staining dish with a glass lid, and put the staining dish with slides on the orbital shaker to mix for 2 hours.
3. Transfer the slides to a fresh staining dish filled with double distilled water. Rinse the slides by plunging them in the water several times. Repeat the rinse at least 4 times, using fresh double distilled water for each rinse. It is critical to remove all traces of Ethanol-NaOH.
4. If you are not coating the slides, place the slides in a slide rack in an oven at 45°C. Use of a vacuum oven is optional. Protect the slides from dust in the air by rinsing all glassware prior to use, and by keeping all solvents, slides and staining dishes covered.

## Slide Coating with Silane

### Abstract

Silane coatings are used for paraffin sections, frozen sections and in situ hybridization. A quick & easy procedure is provided to coat microscope slides with a silane coating.

### Materials and Methods

Material	Quantity	Cat. No.
Staining Dish & Cover	3	900303
20 Slide Rack, Glass	3	900304
2% 3-aminopropyltriethoxysilane (AES) in acetone*	500 mL	—
Double-Distilled water	500 mL	—
Acetone	500 mL	—

\*Keep this in a fume hood

### Procedure

1. Prepare 2% 3-aminopropyltriethoxysilane (AES) in acetone (do this under a fume hood).
2. Clean slides as described in the Slide Cleaning Product Application Note.
3. Place slides in a slide rack, and rinse slides in a staining dish with acetone. Move the rack of slides to a staining dish containing 2% AES in acetone. (Note - dedicate this staining dish for the AES solution. Do not use it for anything else). The slides will need 5 to 15 minutes in this solution.
4. Rinse slides by dunking 4 times in fresh acetone. Repeat this wash step 2 times with fresh acetone.
5. Rinse slides by dunking them into a staining dish containing fresh double distilled water.
6. Dry slides overnight in a dust free environment. They can be dried in a vacuum oven. These slides can be kept for up to 6 months in a dust-free plastic box.

## Slide Coating with Poly-Lysine

### Abstract

Coating slides with Poly-Lysine allows binding of DNA and certain proteins. A Poly-Lysine coating also promotes cell adhesion to slides for culturing or experiments, such as calcium ratio imaging. Wheaton staining dishes offer a convenient method for efficiently coating a number of slides.

### Materials and Methods

Material	Quantity	Cat. No.
30-Slide Rack, Stainless Steel	2	900234
Staining Dish & Cover	4	900303
Poly-Lysine solution (0.1% w/v)	70 mL	Available commercially
Tissue Culture PBS	70 mL	—
Double-Distilled water	2 L	—
Amber HDPE bottles	1000 mL	209130
Drying Oven*	1	—
Orbital shaker	1	—
Centrifuge	1	—
Dust-free plastic containers to hold slides	—	—

\*45°C - vacuum oven preferred

### Procedure

1. Prepare the poly-lysine by adding 70 mL of poly-lysine to 70 mL of PBS solution and 560 mL water. Store in an amber HDPE bottle (209130).
2. Clean slides as described in the Slide Cleaning Product Application Note. Place an equal number of slides in each of two stainless steel slide racks.
3. Transfer slides to the polylysine solution and shake for 15 minutes to 1 hour.
4. Transfer the racks of slides to fresh staining dishes filled with fresh double-distilled water. Plunge up and down at least 5 times to rinse the slides.
5. Centrifuge slides on a microtiter plate carrier at 500 RPM for 5 minutes. Place paper towels under racks to absorb moisture. Use two racks of slides to balance the centrifuge.
6. Place the racks of slides in clean staining dishes with covers for transport to vacuum oven. Place the dishes in the oven at 45°C for 10 minutes. Vacuum is optional.
7. Store the slides in a plastic slide box without a rubber mat bottom.

Numerous users commented that slides should be stored for 14 days before spotting DNA. Slides are best when used within 4 months.