

Protocol related to slide coating

Summarized by YAN Jie lab;

Slide cleaning:

1. Clean of the staining jar by detergent. And place the #1.5 coverslips (7 pieces each jar to a "N/N/N" shape). Each channel need 1 piece of functionalized cover glass for the bottom (22×40 mm) and 1 piece of clean cover glass for the top (20×20 mm).



2. Ultrasonic to clean the cover glasses

2a. Detergent (20% Decon90 in DIwater) wash 30 min. flush 20 times with di-water.



2b. Methanol (100%) wash 30 min.

2c. Acetone (100%) wash 30 min.

2d. Dry in oven at about 110 °C for 20 min. The 20×20 mm glasses can be stored in a sealed container, and ready to used to make the channels. The 22×40 mm glasses need more steps to clean.

3. For 22×40 mm glasses, fill $\text{H}_2\text{SO}_4:\text{H}_2\text{O}_2:\text{DIwater} = 1:1:5 = 4\text{ml}:4\text{ml}:20\text{ ml}$ in each staining jar. Put the jars in oven/heater at 120°C for 30 minutes (Use a secondary container if put the jars in oven). Then wash with DIwater for 30 times or more.

4. Dry in oven at ~110 °C for 20 min or blow with N_2 .

5. Plasma to clean the cover glasses for 20 min.

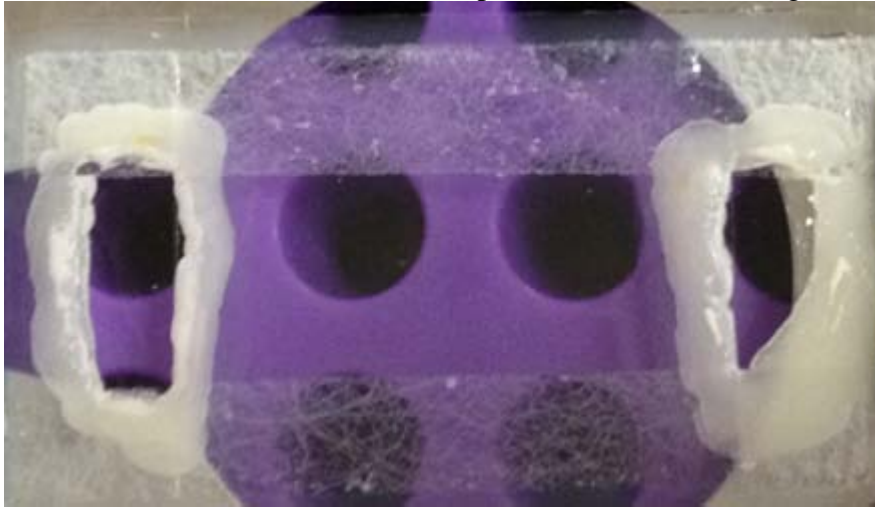
Function by Glutaraldehyde

1. Fill APTES (1% in methanol) for 1 hour. Wash with methanol for 3 times. Dry in oven at about 110 °C for 20 min.

2. Fill Glutaraldehyde (1% in DIwater) for 1 hour. Ultrasonicate 2 times in DIwater. Blow the cover glasses to dry with N_2 .

Function by Streptavidin in channels.

1. Make channels with double side tape and KE-445 silicone glue.



2. For each channel, 50 μL of Streptavidin diluted in PBS buffer, $\sim 20 \text{ ng}/\mu\text{l}$ (or less), overnight in a sealed dish. Excessive water is needed in the dish to prevent the channel from getting dry.
3. For each channel, 50 μL of 100 mM Tris-HCl pH 7.4 for 2 hours.
4. For each channel, 50 μL of BSA buffer (20 mM Tris-HCl, 50 mM NaCl/KCl, 2% BSA), store in 4 degree in a sealed dish. Excessive water is needed to prevent the channel from getting dry. Fill in more 2% BSA buffer and water each for 3 days.