

UNM SOM EXPERIMENTAL BIOTECHNOLOGY LABORATORY: MICROARRAYS Standard Operating Procedure		
Title: Gridder Pin Conditioning		
SOP#:	Revision level: 1	Effective Date: 8/7/03
Author: <i>B. Griffith</i>	Primary Reviewers: B. Griffith	

1. **PURPOSE**

- 1.1. The new Majer pins for the GeneMachines OmniGrid microarray printer are conditioned prior to usage. The conditioning enhances the probability of the pins printing well immediately

2. **SCOPE**

- 2.1. Protocol was provided by Bill Whitford, who managed the Phase I Toxicology Microarray Facility

3. **MATERIALS**

- 3.1. 0.5% SDS
 3.2. 3xSSC spotting buffer
 3.3. sonicator
 3.4. 100ng/ul ssDNA in 3xSSC for test printing; 7ul per well.
 3.5. PLL coated slides
 3.6. 70% ethanol

4. **REAGENT PREPARATION**

- 4.1. 0.5% SDS: 0.5gms in 100 mls of sddwater

5. **PROCEDURE**

- 5.1. Handle pins with powder free gloves only.
 5.2. The pin tips should never touch anything but the glass surface during printing.
 5.3. New pins are reviewed under the microscope and expect to see open chanel and fine pointed pair of pin tips. Record observations in the pin history database.
 5.4. Place the new pins into the printhead with springs. Use jewelers tweezers on top of shaft to adjust the pin orientation to match the half moon shape of the top of the print head.
 5.5. Be sure that the foil covering the holes in the dry station are open for the pins in the print head.
 5.6. Put 0.5% SDS in the lid of a pipette tip box and place the box on top of a chilling plate in position 1 of the platen.
 5.7. On the Gridder software, use the calibrate plate function to move the print head over the top and placing pins into the 0.5% SDS solution
 5.8. Soak in 0.5% SDS for 1 hour
 5.9. Use manual wash/dry cycles to thoroughly rinse the pin tips
 5.10 Soak the pins overnight in 3xSSC printing buffer
 5.11 Sonicate the pins in 0.5xSSC for 10 minutes
 5.11 Use manual wash/dry cycles to thoroughly rinse the pin tips and then begin printing.
 5.12 Print the tips with 100ng/ul ssDNA in 3xSSC for 500 to 5000 hits, at 60% humidity. Review the results, When a pin has printed at least 500 consecutive hits, it is conditioned.
 5.13 Use manual wash/dry cycles to thoroughly rinse the pin tips
 5.14 Soak the pins in 70% ethanol for 5-10 minutes
 5.15 Use manual wash/dry cycles to thoroughly rinse the pin tips
 5.16 Either store the pins in the print head if they are needed for the next print run or put the pins back in their storage bags with the tips protected by the 200ul yellow pipette tips.
 5.17 In the pin history database, note the date in service as the date conditioned and note whether the pins are printing well.