Etching glass coverslips

(from Matt Lang lab)

Materials
100 g KOH
Ethanol
MilliQ DI H2O
Corning Coverglass (22 x 40 mm) No. 1.5

1. Mix 100g of KOH in 300 mL of Ethanol during 30 min in a 1 L beaker with magnetic bar
2. Load teflon coverslip racks with coverglass
3. Fill 2 more 1 L beakers with 300 mL DI H2O and degas for 5 minutes
4. Fill one more 1 L beaker with 300 mL ethanol and degas for 5 minutes
5. Degas the ethanol/KOH beaker for 5 minutes
6. Submerge one coverslip rack in the KOH/ethanol solution and sonicate for 5 minutes
7. Wash coverslips by dipping the rack up and down and spinning it in the ethanol beaker
8. Wash coverslips by dipping the rack up and down and spinning it in the DI H2O beaker
9. Submerge coverslip rack in the second DI H2O beaker and sonicate for 5 minutes
10. Spritz coverslips with DI H2O bottle - use lots of H2O and wash every single slip twice using lots of pressure
11. Spritz coverslips with ethanol bottle - use lots of ethanol
12. Repeat steps 6-11 with each rack of coverslips
13. Dry all coverslips in the oven for at least 15 minutes
14. Store coverslips in racks inside sealed plastic nalgene containers

Peptide-DNA tethering assay

(Marie-Eve Aubin-Tam)

Materials

20μL of ~0.1ng/μL A08-3500bpDNA-biotin (see note for A08 sequence)
1.26 μm streptavidin coated polystyrene beads (Spherotech, SVP-10-5)
Casein
PBST (PBS with 0.01% tween-20)
Vacuum grease

1. Make a flow chamber with etched glass coverslips
2. Flow ~0.1ng/μL A08-3500bpDNA-biotin, incubate 1 hour at room temperature (*do steps 3-7 in the meantime*)
3. Make a 1mg/ml casein solution in PBST, filter with 0.2μm syringe filter
4. Mix 3μL of 1.26μm streptavidin coated beads with 150μL PBST
5. Spin down at 10000rpm during ~3 min, remove supernatant, resuspend in 150μL PBST
6. Spin down at 10000rpm during ~3 min, remove supernatant, resuspend in 150μL PBST
7. Spin down at 10000rpm during ~3 min, remove supernatant, resuspend in 150μL of the casein solution, sonicate beads, keep on ice
8. Flow 100μL of casein solution in flow chamber, incubate 30 minutes
9. Flow 50 μL of beads solution in flow chamber, incubate 30 minutes
10. Wash channel with 150μL of casein solution
11. Seal chamber with vacuum grease.

Note: The sequence of the glass binding peptide (A08) is CGGRSGRRRSHHHRL.