Boom Buffers and Silica Prep

Acid-Treated Silica Prep

1. Suspend 12 g of silicon dioxide in 100 mL of autoclaved Millipore water; mix thoroughly and allow to sediment for 24 hours at room temperature.
2. After sedimentation, remove the supernatant (by suction) and add fresh autoclaved Millipore water to a total volume of 100 mL. Resuspend the pellets by mixing vigorously and allow to re-sediment for 5 hours at room temperature.
3. After 5 hours, dispose of the supernatant leaving 12-15 mL of total volume (stop suctioning when silica pellets are being removed.)
4. Add 100 uL of hydrochloric acid (HCl, 32% wt/vol ~10.2 M) to adjust the pH to 2 and mix thoroughly.
5. Divide the mixture into small aliquots (~4-5 mL portions) in small glass vials and autoclave for 20 minutes at 121 ^{o}C to sterilize.
6. Store the silica in at room temperature, in the dark for up to 6 months.

Boom L6 Lysis Buffer

1. Add 60 g of GuSCN to 50 mL of 0.1 M Tris-HCl at pH of 6.4. Heat the mixture while stirring until the GuSCN is fully dissolved.
2. Add 11 mL of 0.2 M EDTA at pH 8.0 followed by 1.3 mL of Triton X-100.
3. Fully mix the solution at store at room temperature in the dark.

Boom L2 Wash Buffer

1. Add 120 g of GuSCN to 100 mL of 0.1 M Tris-HCl at pH 6.4. Heat the mixture while stirring until the GuSCN is fully dissolved.
2. Store the solution at room temperature in the dark.

BoomD Lysis Buffer

1. Weight out 35.4g of GuSCN and have ~ 13-14 mL of water ready
2. Put most of the GuSCN in a 50 mL conical, then pour all of the 14 mL of water in, followed by the rest of the GuSCN powder. The GuSCN will not come close to any kind of dissolution at the moment.
3. Put the 50 mL conical in a 40C-50C bath for 10 min; then vortex to fully dissolve GuSCN. The total volume inside the conical should now be about 43-44 mL total due to volume displacement.
4. Add 5 mL of 1M MOPS, pH 7.0 (pH titrated from free acid with 10M NaOH)
5. Add 1.36 mL of 20% N-lauroylsarcosine (Na+ salt) solution (available from Sigma).
6. Cool the solution down to room temperature by either cold water or let it sit @ room temp for 10-20 min. GuSCN crystals will start to form inside the tube because it is supersaturated.
7. When cooled, add 360 uL of 2-mercaptoethanol to the tube. You want to add this at room temp because BME decomposes faster at higher temperatures.
8. *Top off to 50 mL total with DI water*