Acid Washed Glass Beads

1. Weigh out 50 g of ~0.5 mm glass beads into a 100 ml-orange cap Pyrex bottle. Use Sigma G-9268 (425-600 µm).
   • To scale up, you can use 100 g of glass beads in a 250 ml orange cap Pyrex bottle.
   • It is important that the glass beads are no more than 1/5 the volume of the bottle that is used.

2. Add just enough 5.8 M HCl to cover the glass beads.
   • To prepare 5.8 M HCl, add 1 volume of concentrated HCl to 1 volume of ddH$_2$O with moderate stirring. Never add ddH$_2$O to concentrated HCl without stirring. Concentrated HCl is fuming! Be careful to avoid exposure to fumes. Dilute in a fume hood if necessary.

3. Incubate at room temperature for 1 hour. This step can be extended for a few hours, if convenient.

4. Carefully pour HCl down the drain. Some liquid will remain with the beads. After this, rinse HCl down drain with tap water.

5. Add ddH$_2$O to the 80 ml mark on the bottle. Swirl the bottle for 10 seconds to stir up the beads.
   • The ddH$_2$O wash volume must be at least 5X the volume of the beads in the bottle.

6. Pour off the ddH$_2$O wash in the sink. Some liquid will remain with the beads.

7. Repeat the ddH$_2$O wash (steps 5 and 6) for a total of 10 washes. This will reduce the [HCl] to below 10 mM.

8. Autoclave the beads for 20 minutes.

9. Dry beads by allowing bottle to remain in hot autoclave with bottle top loose and autoclave door slightly open.

10. Store beads at room temperature. Spoon out beads with sterile Pasteur pipette (wide end). Use gloves that have been washed and dried.