# Preparing SPRI beads

This protocol was last updated - May 15, 2020 by Chris Hughes.

This protocol describes a method for preparing SPRI beads, also known as Ampure (Beckman). There is some great info related to this protocol to be found **here**.

## Quick links

- Reagents and materials
- Solution recipes
- Protocol
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## Reagents and materials

- 1M Tris-Cl, pH 7.5 (Thermo Scientific, CAT#15567027)
- carboxylate-modified beads (Thermo Scientific, CAT#65152105050250, CAT#45152105050250)
- PEG-8000 (Promega, CAT#V3011)
- 0.5M EDTA (Thermo Scientific, CAT#15575020)
- 5M NaCl (Thermo Scientific, CAT#AM9760G)
- Tween 20 (Sigma, CAT#P9416)
- RNA clean water (Thermo Fisher, CAT#10977023)
- 1.5mL or 2.0mL Safe-Lock tubes (Fisher Scientific, CAT#05-402-25 or CAT#05-402-7)
- 50mL tubes (VWR, CAT#89093-190)

## Solution recipes

- 50% (w/v) PEG-8000 - 12.5g in 25mL of water (see **Note 1**)
- 10% (v/v) Tween 20 - 1mL in 10mL of water
- TE solution (make 50mL)
  - 10mM Tris-Cl, pH 7.5 (500uL from 1M stock)
  - 1mM EDTA (100uL from 0.5M stock)

## Protocol

1. Vortex mix SeraMag beads and transfer 1mL of each to a 2mL microtube.
2. Place tube on a magnetic rack and discard the supernatant after the beads settle.
3. Resuspend beads in 1mL of TE solution and pipette mix. Place back on the magnetic rack and discard the supernatant.
4. Repeat the previous step two additional times for a total of 3 rinses.
5. Resuspend the beads in 1mL TE solution of TE and set aside.
6. In a fresh 50mL tube, combine:

    1. 25mL of 5M NaCl
    2. 500uL of 1M Tris-Cl, pH 7.5
    3. 500uL of 0.5M EDTA
    4. 2.75 mL of water
7. Add the beads in TE solution to the prepared 50mL tube. Vortex mix.
8. Slowly add 20mL of 50% (w/v) PEG-8000 solution.
9. Add 250uL of 10% (v/v) Tween 20 solution to the 50mL tube and mix gently by inversion until the solution appears homogeneous.
10. Wrap the tube in tinfoil and store at +4C.

## Notes

**Note 1** - This PEG solution will be very viscous and make take a long time to dissolve completely. I suggest leaving it on a rotary mixer and walking away for a couple of hours.