FEB 10, 2021

Serapure Bead production

Eric RA Pederson¹¹Uppsala University

methods

Eric RA Pederson
Uppsala University

ABSTRACT

Production of DNA size separation magnetic beads.

MATERIALS

MATERIALS

Sera-Mag Speed Beads GE Healthcare Catalog #65152105050250 PEG 8000 Merck MilliporeSigma (Sigma-Aldrich) Catalog #81268

SAFETY WARNINGS

Wear gloves.

BEFORE START INSTRUCTIONS

Just make sure all the components have been purchased. It is not a difficult protocol

OPEN ACCESS

DOI:

dx.doi.org/10.17504/protocols.io.bkguktww

Protocol Citation: Eric RA Pederson 2021. Serapure Bead production .
protocols.io
<https://dx.doi.org/10.17504/protocols.io.bkguktww>

License: This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working
We use this protocol and it's working

Created: Aug 29, 2020**Last Modified:** Feb 10, 2021**PROTOCOL integer ID:**
41204**Keywords:** speed beads

Serapure bead production

- 1 In a 50 mL conical using sterile stock solutions, prepare TE (10 mM Tris--HCl and 1 mM EDTA);
 - 500 µL 1 M Tris pH8
 - 100 µL 0.5 M EDTA

Fill conical to 50 mL mark with dH2O.

- 2 To a new 50 mL, sterile conical add;
 - 9 g PEG--8000
 - 10 mL 5 M NaCl (or 2.92 g)
 - 500 µL 1 M Tris--HCL
 - 100 µL 0.5 M EDTA
 - 0.250 ul 10% tween-20
 - Fill to ~ 49 mL using sterile dH2O.

Mix conical for about 3--5 minutes until PEG goes into solution (solution, upon sitting, should be clear).

-Fill to ~ 49 mL using sterile dH2O. gently.

- 3 Mix Sera--mag SpeedBeads and transfer 1 mL to a 1.5 mL microtube.

Sera-Mag Speed Beads GE Healthcare Catalog #65152105050250

- 4 Place SpeedBeads on magnet stand until beads are drawn to magnet.
Discard supernatant

- 5 Add 1 mL TE to beads, remove from magnet, mix, return to magnet.
Discard supernatant

- 6 Add 1 mL TE to beads, remove from magnet, mix, return to magnet.
Discard supernatant

- 7 Add 1 mL TE to beads and remove from magnet. Fully resuspend and set microtube in rack (i.e. not on magnet stand).

- 8 Mix 1 mL SpeedBead + TE solution and transfer to 50 mL conical.
- 9 Fill conical to 50 mL mark with dH₂O (if not already there) and gently mix 50 mL conical until brown.
- 10 Wrap in tinfoil (or place in dark container) and store at 4°C.
- 11 Test against AMPure XP using aliquots of ladder (Fermentas GeneRuler). I recommend the 50 bp ladder in place of the ultra-low range ladder.
- 12 Mix 2 µL GeneRuler with 18 µL dH₂O.
- 13 Add 20 µL GeneRuler mixture to a volume of SeraPure and/or AMPure (the specific volume depends on whether you are trying to exclude small fragments or not; see the figure on the next page).
 - 13.1 Use 20 µL of the ladder/water mix and add to these amounts of the SeraPure beads and the AMPure beads.
 - 0.9X sample - 18 µL
 - 1.2X sample - 24 µL
 - 1.5X sample - 30 µL
 - 1.8X sample - 36 µL
 - 2.1X sample - 42 µL
 - 2.5X sample - 50 µL
 - 2.7X sample - 54 µL
- 14 Incubate mixture 5 min. at room temperature.

- 15** Place on magnet stand.
Discard supernatant.
- 16** Add 500 μ L 70 % EtOH.
- 17** Incubate on stand for 1 min.
Discard supernatant.
- 18** Add 500 μ L 70% EtOH.
- 19** Incubate on stand for 1 min.
Remove supernatant.
- 20** Place beads on 37°C heat block for 3--4 min. until dry.
- 21** Re-hydrate with 20 μ L dH₂O for 5 minutes.
- 22** Place on magnet stand.
Transfer supernatant to new tube.

- 23** Mix supernatant with 3 μ L loading dye.
Use the same ladder
Electrophorese in 1.5 % agarose for 60 minutes at 100 V (or as you please)