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SPRI purification beads

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ABSTRACT

Protocol for preparing SPRI beads 100x cheaper than the commercial AMPure XP.
Based on DeAngelis et al. (1995) and online protocols:
https://s3-us-west-2.amazonaws.com/oww-files-public/1/17/Serapure_bead_recipe.pdf
https://s3-us-west-2.amazonaws.com/oww-files-public/f/f8/SPRI_buffers_v2_2.pdf

THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

DeAngelis, M. M., Wang, D. G., & Hawkins, T. L. (1995). Solid-phase reversible immobilization for the isolation of PCR products. *Nucleic acids research*, *23*(22), 4742.

MATERIALS

NAME	CATALOG #	VENDOR
PEG-8000		
NaCl		
Tween-20	P-7949	Sigma-aldrich
Water, nuclease free		
1 M Tris-HCl pH 8.0		
0.5 M EDTA pH 8.0		
Sera-Mag Carboxylate-Modified Magnetic Particles (Hydrophylic), 15 mL	24152105050250	Ge Healthcare

Preparation of the solutions

1 Prepare 2.5 M solution of NaCl:
- place a 50 ml Falcon tube on the scale and tare
- add 14.61 g of NaCl to the tube
- add water to 40 ml
- dissolve NaCl
- fill up the tube with water to 50 ml and mix

2 Prepare 50% solution of PEG-8000:
- place a 50 ml Falcon tube on the scale and tare
- add 12.5 g of PEG-8000 to the tube
- add 14 ml of nuclease-free water
- close the tube, and dissolve PEG by mixing vigorously, preferably on an orbital shaker with heating
- fill up the tube with water to 25 ml and mix gently by flipping the tube to avoid bubbles

3 Prepare 10% Tween-20:
1. add 900 ul of water to 1.5 ml tube
2. slowly aspirate 100 ul of Tween-20 with just a tip of the pipette submerged to avoid liquid retention outside of the tip (it is very viscous so take time to aspirate the whole volume)
3. add Tween-20 to the water, mix by pippeting

4 Prepare TE buffer by mixing:
- 49.4 ml of molecular-grade water
- 500 ul of 1M Tris solution
- 100 ul of 0.5M EDTA solution