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Bead preparation protocol

In 1 collection

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1 Works for me

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Peter Krijger

DISCLAIMER

J.V. is co-founder and CSO of InActiv Blue; S.M. is an employee of Tecan Trading AG; L.M.P.D., M.M.C.B., R.J.T.M.R., L.B.J.V. and J.H.B.B. are employees of Stichting PAMM Veldhoven; A.vW. is an employee of Sanquin; E.D. is a founder and employee of Bodegro; and F.J.D. is CEO and co-founder HiFiBio France.

ABSTRACT

STRIP is a start-to-end streamlined and automated procedure for COVID-19 testing, centering on a single Tecan Fluent liquid-handling robot that can process over 14,000 samples per day.

Here we describe the protocol to prepare the magnetic beads that are currently used in STRIP. Note, in this protocol we use Sera-Mag SpeedBead Carboxylate-Modified Magnetic Particles (Hydrophobic) from Cytiva, but other beads such as SeraSil Mag 400 beads (Cytiva) can be used as substitutes.

PROTOCOL CITATION

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COLLECTIONS ⓘ

 **STRIP: Systematic Testing using Robotics and Innovation during Pandemics**

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PARENT PROTOCOLS

In steps of

[Step 2: RNA extraction and RT-qPCR](#)

[Step 2: RNA extraction and RT-qPCR](#)

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[STRIP: Systematic Testing using Robotics and Innovation during Pandemics](#)

MATERIALS TEXT

- Sera-Mag SpeedBead Carboxylate-Modified Magnetic Particles (Hydrophobic). Cytivia, #65152105050350.
- DynaMag™-50 Magnet. Thermo Fisher, #12302D.
- 2-Propanol HPLC grade.

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Bead preparation

55m

1m

1 Mix the beads by vortexing for  **00:01:00** .

30m

2 Put the beads on a rollerbank for  **00:30:00** .

- 3 Aliquot 10 ml beads in 50ml tubes. 1m
- 4 Put the 50 ml tube on the magnet. 1m
- 5 When the solution is clear carefully remove the supernatant. 5m
- 6 Add 20 ml 2-Propanol. 1m
- 7 Mix by vortexing. 1m
- 8 Repeat step 4-7. 15m
- 9 Repeat step 4-5.
- 10 Resuspend beads in 10 ml 2-Propanol. Beads resuspended in 2-Propanol can be stored at 4°C for at least 5 days.

Final dilution 55m

- 11 When ready to be used mix by vortexing and transfer the 10 ml beads to 150 ml 2-Propanol.
- 12 Add 20 ml 2-Propanol to the 50 ml tube to resuspend the remaining beads and transfer the diluted beads.
- 13 Repeat step 11.
- 14 Transfer the diluted beads (Total volume 200 ml) into the spinvessel. Start the spinvessel, this will keep the beads in solution. Beads can be used for 5 days at RT.