

## Quick-Start Protocol

# CarbonPrep Wastewater - Manual Protocol

### Shelf-life

- Carbon beads have a shelf-life of at least two years.
- RNA pre-binding solution (RPS), RPS wash buffer (RPS WB), wash buffer (WB) and Binding buffer (BB) have a shelf life of one year.

### Further Information

- OT-2 FAQ Sheets: See product page. • Safety Data Sheets: See product page.
- Technical assistance: [support@magnetics.life](mailto:support@magnetics.life)

### Before Starting

1. Add ethanol to bottles which require it. The amount to add is listed on the bottle.
  - a. After adding ethanol, mark the bottle in the space provided on the label.
2. The complete kit will have seven solutions, RPS Wash buffer (RPS), Wash Buffer (WB), Carbon beads, and elution buffer (EB).

### Protocol

1. To 20-50 mL of wastewater add 70uL of carbon beads.
2. Gently stir for 2-4 hours. We recommend a mixer such a Rotator Genie like this one found on [amazon](https://www.amazon.com). The beads should look clumpy as shown below.



Image 1: Wastewater sample and LM carbon beads in RPSWB after tumbling for 4 hours.

- a. If they do not look clumpy, consider increasing the volume of wastewater. The sample will yield results even if it doesn't look clumpy, but a higher volume of wastewater may be optimal.
3. Separate magnetic beads with a magnet and remove liquid.
  4. Re-suspend beads in 750uL of RPS wash buffer and transfer to a 1.5 ml tube.
  5. Place 1.5 ml tube on a magnetic stand. Wait for the beads to separate and remove the liquid.
  6. Re-suspend with 750uL of Wash buffer and transfer to a clean 1.5mL Eppendorf tube.

- a It is recommended to move this solution to a new tube to decrease contamination.
7. Remove liquid after bead separation.
8. Re-suspend with 500uL of Wash buffer and decant liquid after bead separation.
9. With the liquid removed, allow the beads to dry at room temperature for 10 minutes.
10. Re-suspend the beads with 40-80uL of elution buffer. Heat samples in a water bath to 65 C for 10 minutes.
11. Centrifuge 10,000 x g for 2 minutes to pellet carbon beads. You can also use the magnetic stand, but centrifuging will compact the beads which will maximize recovery.
12. Place the sample on a magnetic stand. Remove the clear liquid and place it into a fresh 1.5mL tube. This is your sample.