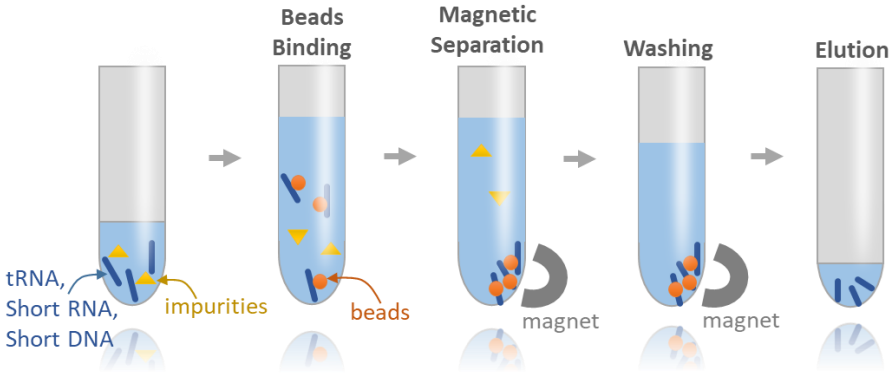
Magnetic Beads (tRNA Purification)

Catalog No.	40054S	40054M	40054L
Volume	5 mL	20 mL	100 mL

Description

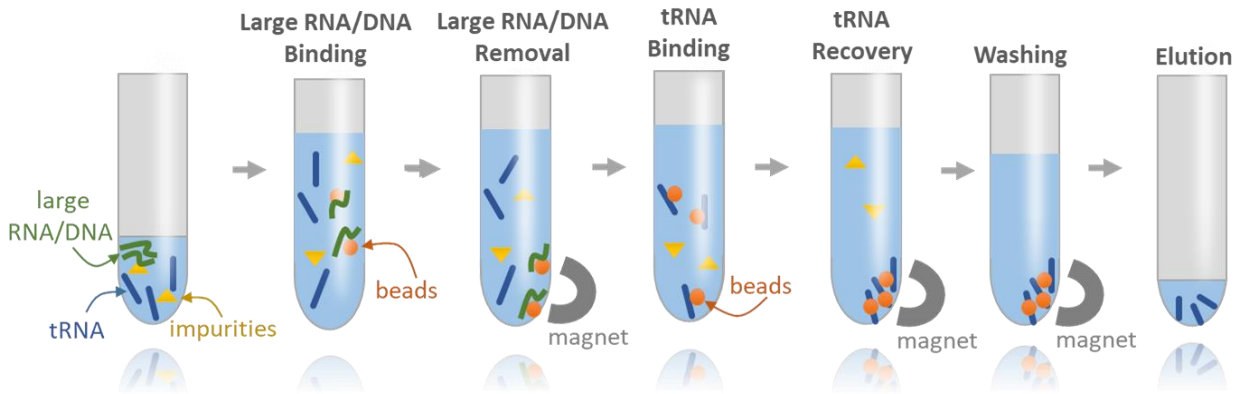
Solid Phase Reversible Immobilization (SPRI) magnetic beads are often used for DNA and RNA purification because they are simple, fast, and effective. The beads are paramagnetic particles coated with carboxyl groups that reversibly bind to DNA and RNA. However, magnetic beads can only purify DNA/RNA fragments that are 100 base pairs or longer. DNA/RNA fragments shorter than 100 base pairs, including tRNA, are not effectively recovered.

We have developed **Magnetic Beads (tRNA Purification)** that solves the tRNA and short DNA/RNA recovery problem. The beads with our proprietary technology purify tRNA effectively by removing impurities and unwanted components such as dNTPs, detergents, salts, proteins, and other contaminants. The magnetic bead reagents can be used for oligo (>70 nt) applications.



Workflow without large RNA/DNA contamination

In the case of samples contaminated with RNA/DNA such as rRNA and DNA, our magnetic beads can effectively remove RNA/DNA that are 180 nt and larger. Purified tRNA are ideal for applications requiring high quality, as the fragments are free of impurities and contaminants.



Workflow with large RNA/DNA contamination

Features

- Effective purification of tRNA and oligos (>70 nt):
  - tRNA
  - RNA fragments 70 nt or longer
  - DNA/RNA hybrid fragments 70 nt or longer
  - Oligo and chimeric oligo 70 nt or longer
  - dsDNA fragments 70 bp or longer
  - ssDNA fragments 70 nt or longer
- Removal of larger RNA/DNA contamination:
  - 18S rRNA
  - 28S rRNA
  - RNA/DNA> 180 nt
- Removal of unwanted components and other impurities.

Component

Catalog No.	40054S	40054M	40054L
Magnetic Beads	5 mL	20 mL	100 mL

Storage Condition

- Store at 4°C, stable up to 12 months.

Reagent & Equipment Needed (not provided in this reagent)

- Magnetic particle concentrator
- 96-well PCR plate or Eppendorf tubes
- 80% ethanol (prepare before use)

Protocol A (without large RNA/DNA contamination)

Note: Invert or shake the bottle to thoroughly resuspend the beads.
Slow pipetting of the viscous beads is needed for precise aliquot.

1) Transfer samples to a 96-well plate.
2) Transfer 2X volumes of the beads to the wells containing samples. Mix by pipetting gently and thoroughly. Incubate for 5 min.
3) Load the sample plate on a magnet, incubate for 8 min, and discard the supernatant carefully.
4) Add 180 µl of 80% ethanol without disturbing the beads. Incubate for 1 minute and discard the supernatant carefully. Remove all residual ethanol without disturbing the beads.
5) Air-dry the beads on the magnet for 5 min.
6) Remove the plate from the magnet and resuspend the beads in at least 20 µl of water or Tris-HCl (10 mM). **Note**: Resuspend the beads in less than 20 µl will reduce the yield.
7) Load the plate on the magnet, incubate for 1 min, and transfer supernatant (containing sample) to a new tube without disturbing the beads.

Protocol B (with large RNA/DNA contamination)

Note: Invert or shake the bottle to thoroughly resuspend the beads.
Slow pipetting of the viscous beads is needed for precise aliquot.

1) Transfer samples to a 96-well plate and add 1X volumes of the beads to the wells containing samples. Mix by pipetting gently and thoroughly. Incubate for 2 min.
2) Load the sample plate on a magnet, incubate for 3 min, and transfer supernatant to a new well without disturbing the beads.
3) Transfer 1.5X volumes of the beads to the wells containing samples. Mix by pipetting gently and thoroughly. Incubate for 5 min.
4) Add 180 µl of 80% ethanol without disturbing the beads. Incubate for 1 minute and discard the supernatant carefully. Remove all residual ethanol without disturbing the beads.
5) Air-dry the beads on the magnet for 5 min.
6) Remove the plate from the magnet and resuspend the beads in at least 20 µl of water or Tris-HCl (10 mM). **Note**: Resuspend the beads in less than 20 µl will reduce the yield.
7) Load the plate on the magnet, incubate for 1 min, and transfer supernatant (containing sample) to a new tube without disturbing the beads.

Beads Volume Calculation Table

Sample Volume	1X Beads Volume	1.5X Beads Volume
50 µl	50 µl	75 µl
60 µl	60 µl	90 µl

Quality Control

Magnetic beads components passed stringent functional quality test.

Product Use Limitation

This product is developed and sold for research purposes and *in vitro* use only. Please refer to BioDynami.com for Material Safety Data Sheet of the product.

Limited Label License

The product is developed and sold exclusively for research purposes and *in vitro* use only. The product or its any individual component has not been tested for use in diagnostics or drug development, and is not suitable for administration to human or animal.

The purchaser of this product is granted a limited, non-transferable right to use the purchased amount of the product only for internal, research purposes for the sole benefit of the purchaser. The buyer cannot sell or otherwise transfer (i) this product (ii) its components or (iii) materials made using this product or its components to a third party or otherwise use this product or its components or materials made using this product or its components for commercial purposes. This product is for internal research purposes only and is not for use in commercial purposes of any kind. “Commercial purposes” includes any activity for which a party receives consideration and may include, but is not limited to, (1) use of the product or its components or derivatives in manufacturing, (2) transfer or sale of vectors made with the product or components or derivatives of the product, (3) use of this product or components or derivatives of the product made therefrom to provide a service, information, or data to a third party in return for a fee or other consideration, or (4) resale of the product or its components or derivatives, whether or not such product or its components or derivatives are resold for use in research. If the purchaser is not willing to accept the limitations of this limited use statement, BioDynami is willing to accept return of the products with a full refund. For information on obtaining additional rights, please contact support@biodynami.com

BioDynami

601 Genome Way, Huntsville, Alabama 35806, USA
https://biodynami.com
support@biodynami.com

Version 1.1, Oct. 2023