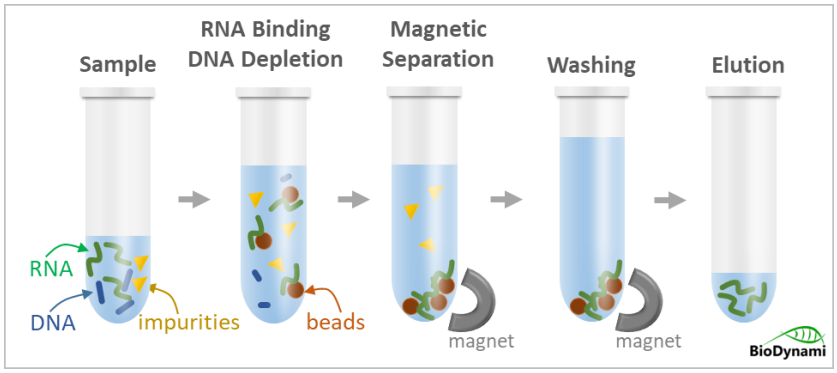
DNA Removal Magnetic Beads (for RNA Purification)

Catalog No.	47063S	47063L
Volume	2.5 mL*	10 mL**

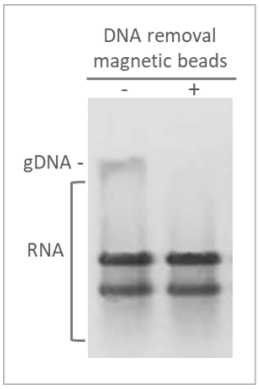
*50 rxns based on 50 µl of sample volume
**200 rxns based on 50 µl of sample volume

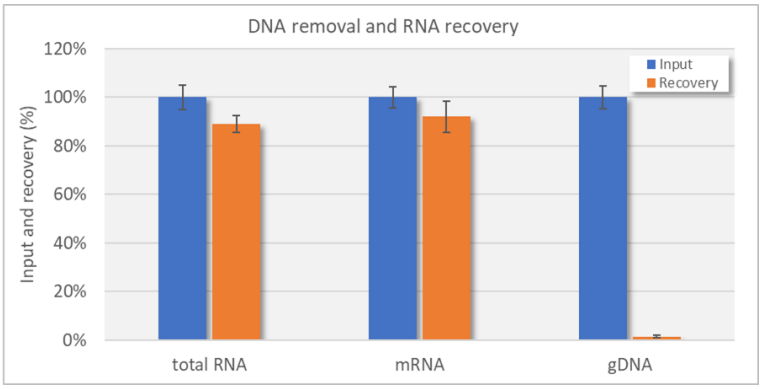
Description

The **DNA Removal Magnetic Beads (for RNA Purification)** reagent is developed for the efficient elimination of genomic DNA contamination in RNA samples. During RNA extraction, genomic DNA is frequently co-purified due to nuclear lysis. This contamination poses a significant challenge for downstream applications, particularly those involving polymerase chain reaction (PCR). The issue is especially critical when quantifying low-copy transcripts or processing low-input samples, where residual DNA can lead to inaccurate quantification and false results.



We have developed a unique beads-based system that completely removes DNA contamination using Solid Phase Reversible Immobilization (SPRI) technology. The reagent combines RNase-free DNase with magnetic beads—paramagnetic particles coated with carboxyl groups that reversibly bind nucleic acids. Our proprietary magnetic beads can be stored at -20°C to maintain maximal DNase activity.





The reagent is formulated with RNase-free DNase, ensuring the complete degradation of DNA while preserving RNA integrity. The DNase and all other reagent components are thoroughly removed during the subsequent ethanol wash steps. The magnetic bead-based protocol offers a simple and fast workflow, eliminating the need for tedious, repetitive centrifugation steps required by traditional column-based methods.

This system effectively removes DNA while simultaneously recovering intact RNA. In addition to DNA, unwanted contaminants such as enzymes, proteins, salts, and other impurities are also eliminated during the process. The purified RNA is ready for use in a wide range of sensitive downstream applications, including enzymatic treatments, hybridization, cDNA synthesis, RT-PCR, RT-qPCR, and NGS library preparation.

Features

- Effective removal of DNA by RNase-free DNase
- High RNA recovery rate via magnetic beads
- Simultaneous DNA removal and RNA recovery in a single step
- Efficient elimination of unwanted components and impurities
- Simple and fast beads-based protocol

Component

Catalog No.	**47063S**	**47063L**
DNA Removal Magnetic Beads (for RNA Purification)	2.5 mL	10 mL

Storage Condition

- Store beads at -20°C, stable up to 6 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

Attention:

- Invert or shake the bottle to thoroughly resuspend the beads before use.
- Slow pipetting of the viscous beads is needed for precise aliquots.
- Store beads at -20°C after use.

1) Add 1X volumes of the beads to the wells or tubes containing RNA samples, mix by pipetting gently and thoroughly. Incubate at room temperature for 10 min. **Note**: Incubation time can be extended in case of heavy DNA contamination.
2) Load the sample plate on a magnet, incubate for 4 min, and discard the supernatant carefully.
3) 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.
4) Air-dry the beads on the magnet for 4 min.
5) Remove the plate from the magnet and resuspend the beads in at least 10 µl of nuclease-free water (pH >6.0). **Note**: Resuspend the beads in less than 10 µl may reduce the yield.
6) Load the plate on the magnet, incubate for 1 min, and transfer supernatant (containing RNA) to a new tube without disturbing the beads.

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.

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