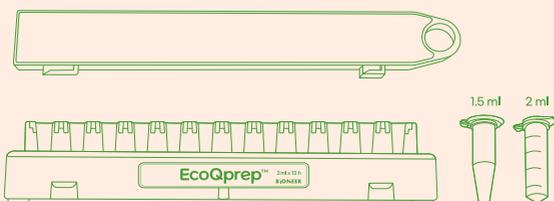
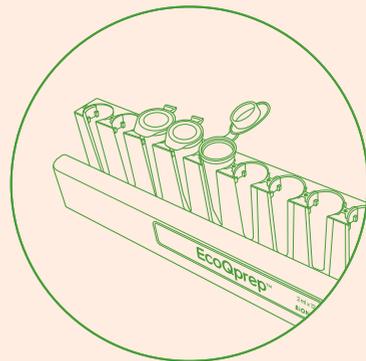


# EcoQprep™

## mRNA Kit

Magnetic Bead-based  
Preparation and Purification Solution



BIONEER Corporation.  
Healthier Future for  
Humanity with Genomic Technology

For an Eco-Friendly Lab,  
A Smart Choice!

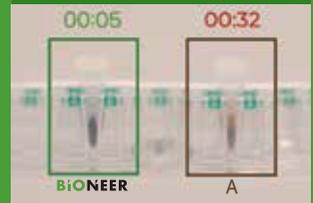
# EcoQprep™

EcoQprep™ mRNA Kit is a specialized nucleic acid extraction kit that utilizes *AccuNanoBead™* Oligo dT beads, developed by BIONEER, designed for the efficient isolation of high-quality mRNA with the aid of a Magnetic Separation Rack.

Within the EcoQprep™ mRNA Kit, Oligo dT beads are used to rapidly and selectively capture mRNA molecules. This is achieved through the strong affinity between thymine residues on the beads and the adenine-rich poly(A) tails of mRNA, ensuring reliable enrichment of messenger RNA from complex biological samples.

Unlike conventional polystyrene-based beads, *AccuNanoBead™* features a core made of pure ferrite ( $Fe_3O_4$ ), a highly magnetic material. This unique composition not only offers an eco-friendly alternative but also provides a faster magnetic response and more efficient mRNA purification, resulting in a streamlined workflow and superior yield.

EcoQprep™ mRNA Kit enables Eco-friendly and Quick mRNA extraction in the lab.



How eco-friendly  
is your lab?

EcoQprep™ with  
*AccuNanoBead™*  
What Makes It Special?



## Fast

- Strong magnetic forces reduce particle capturing time, effectively reducing experiment duration.
- Enables faster nucleic acid purification compared to the spin column method using a centrifuge.

## Convenient

- Simple Workflow: Easily remove the solution by flipping the rack without pipetting.
- Rack Design: Transparent material enables easy observation of beads and samples, and the rack is designed for vortexing with tubes attached.

## Eco-friendly

- No centrifuge is required, eliminating power consumption.
- Minimize plastic waste by not using spin column.
- *AccuNanoBead™* uses magnetic nanoparticles without plastic polymers, helping to reduce microplastic pollution.

## Affordable

- With all core components developed and manufactured in-house, the EcoQprep™ mRNA Kit delivers cost-effective mRNA extraction.
- Extract mRNA within \$ 10\* per sample.

\*considering Rack price

# EcoQprep™ mRNA Kit

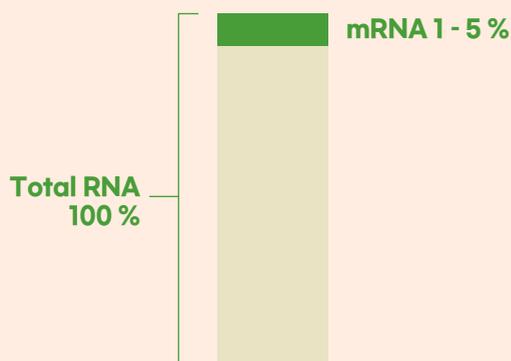
- ✓ Extracts high-purity, high-yield mRNA from various samples, including Mammalian cells, animal tissues, and plant tissues.
- ✓ Oligo(dT) magnetic nanobeads selectively capture polyadenylated mRNA, efficiently removing genomic DNA and ribosomal RNA to deliver highly pure results.
- ✓ Magnetic bead technology allows mRNA extraction in approximately 10 minutes

## mRNA

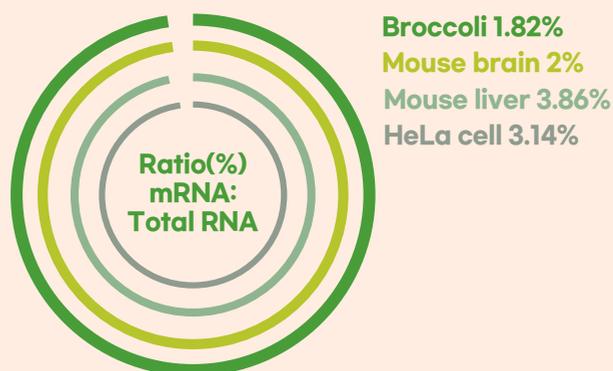
### Experimental Data

#### • mRNA:Total RNA Ratio

##### Theoretical Ratio



##### Ratio using BIONEER's kits



Ensures consistent extraction performance across a wide range of samples

#### Sample – Diverse Sample from animal and plant

Sample		Kit	Purity (A <sub>260</sub> /A <sub>280</sub> )	Purity (A <sub>260</sub> /A <sub>230</sub> )	Yield (µg)	Ratio %* (mRNA: Total RNA)
HeLa cell	2x10 <sup>5</sup> cells	AccuPrep® Universal RNA Kit	2.10	1.99	9.31	100
		EcoQprep™ mRNA Kit	2.12	1.73	0.29	3.14
Mouse Liver	10 mg	AccuPrep® Universal RNA Kit	2.17	2.23	19.06	100
		EcoQprep™ mRNA Kit	2.16	1.76	0.74	3.86
Mouse Brain	10 mg	AccuPrep® Universal RNA Kit	2.10	1.98	25.13	100
		EcoQprep™ mRNA Kit	2.23	1.63	0.50	2.00
Broccoli	40 mg	AccuPrep® Universal RNA Kit	1.97	1.06	8.69	100
		EcoQprep™ mRNA Kit	1.97	0.72	0.16	1.82

\* Typically, mRNA accounts for approximately 1-5% of total RNA.

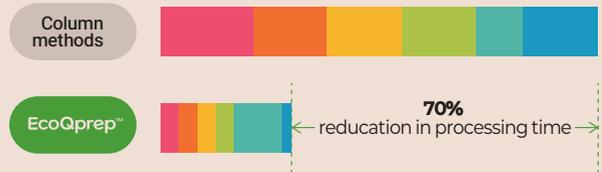
#### Sample – IVT(In Vitro Transcription) mRNA

Sample	Amount of Bead (mg)	Purity (A <sub>260</sub> /A <sub>280</sub> )	Purity (A <sub>260</sub> /A <sub>230</sub> )	Yield (µg)	Binding capacity(µg/mg)
IVT mRNA	0.5	2.56	2.58	2.6	5.21

## Product Specifications/Details

- ✓ 70% Faster than Spin Columns
- ✓ mRNA Extraction: 10 min
- ✓ Nucleic Acid Extraction: 5 min

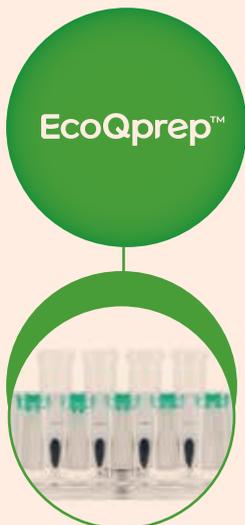
● Binding ● 1<sup>st</sup> washing ● 2<sup>nd</sup> washing ● 3<sup>rd</sup> washing ● Incubation ● Elution



※ For PCR purification, extraction within 5 minutes

## Components

MRD Buffer	30 mL × 1 ea
MRW1 Buffer	40 mL × 1 ea
MRW2 Buffer	50 mL × 1 ea
MRW3 Buffer	50 mL × 1 ea
EM Buffer	25 mL × 1 ea
Magnetic Nano Bead- Oligo dT	50 mL × 1 ea
1.5 mL Tube	50 mL × 1 ea
One Page Protocol	50 mL × 1 ea



### Kit

**mRNA** EcoQprep™ mRNA Kit  
Cat. No. K-3708 Spec. 50 rxn

### Magnetic Bead Separator

**Rack** EcoQprep™ Magnetic Separation Rack  
Cat. No. TM-1012 Spec. 2 ml tube × 12 holes

**BIONEER**  
Innovation • Value • Discovery

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