



# High-Efficiency Magnetic Particle-Based microRNA Isolation for Liquid Biopsy Research

The LiquidPure™ Biofluid NA Isolation Kit uses biotin-labeled capture oligos conjugated to streptavidin-coated magnetic particles (nsNER) to enable higher efficiency, better purity, and flexible scalability for microRNA isolation. Completes isolation in ~1.5 hours from only 200  $\mu$ L plasma/serum.

## HYBRIDIZATION TECHNOLOGY

Sequence-based capture using magnetic particles outperforms traditional column-based methods.

- Biotin-labeled capture oligos conjugated to streptavidin-coated magnetic particles
- Sequence-based Hybridization for high-specificity single-stranded microRNA capture
- Eliminates heme carryover risk inherent in column-based methods

## RAPID & EFFICIENT WORKFLOW

Complete isolation in ~1.5 hours with minimal sample input.

- Only 200  $\mu$ L plasma/serum required
- ~1.5 hours total isolation time
- Automation-friendly scalable workflow

## SUPERIOR PERFORMANCE

Matches or exceeds Commercial Kit in head-to-head comparisons.

- Similar or higher miRNA yields (Ct values) vs Commercial kit
- Excellent reproducibility in both RT-qPCR and NGS assays
- Higher proportion of mature miRNA in NGS read distribution

## KEY PERFORMANCE

### SAMPLE INPUT

**200  $\mu$ L**

Plasma or serum

### TOTAL TIME

**~1.5 hrs**

Automation friendly

### REPRODUCIBILITY

**R > 0.99**

RT-qPCR replicates

## Beads vs. Columns: Advantages in miRNA Isolation

Feature	LiquidPure™ (nsNER)	Column-Based
Mechanism	Sequence-based Hybridization	Physical (Salt/Size-based)
Small RNA Recovery	High Efficiency	Poor / Inconsistent
Purity	High (Total Magnetic Wash)	Low (Risk of Heme carryover)
Scalability	Flexible (automation friendly)	Fixed by column size
Workflow Time	~1.5 hours	Variable
Sample Input	200 µL	Typically ≥200 µL

## OPTIMIZED WORKFLOW

### MAGNETIC BEAD ISOLATION

~1.5 hours total

Plasma Collection (200 µL) → Beads Binding → Magnetic Separation → Washing → Elution

## KIT SPECIFICATIONS

Sample Type	Plasma, Serum, Tissue (Fresh frozen or FFPE)
Sample Input	200 µL
Isolation Method	Magnetic beads
Total Time	~1.5 hours
Target Analytes	miRNA (Possible cfDNA, mRNA)
Small RNA Recovery	High Efficiency
Purity	High (Total Magnetic Wash)
Scalability	Flexible (automation friendly)
Reproducibility	R > 0.99 (RT-qPCR), R > 0.97 (NGS)
Compatibility	RT-qPCR, NGS