

# cfPure™ Cell Free DNA Extraction Kit

Liquid Biopsy Made Easy

## Liquid Biopsy Product Series: cfPure™ Cell Free DNA Extraction Kit

BioChain's cfPure™ Cell Free DNA Purification Kit is designed for rapid and efficient purification of circulating cell free DNA (cfDNA). The system utilizes silica-coated paramagnetic particles to purify cfDNA from 0.2 mL to greater than 10 mL of serum or plasma. The buffers were developed to ensure efficient recovery of 100 bp - 500 bp DNA fragments in order to maximize recovery of cfDNA. The recovered DNA is suitable for a wide range of down-stream applications, such as bisulfite sequencing, NGS, and qPCR. The product is manufactured under ISO 9001/13485 quality management system.

### Efficient Recovery of cfDNA in Automated Systems

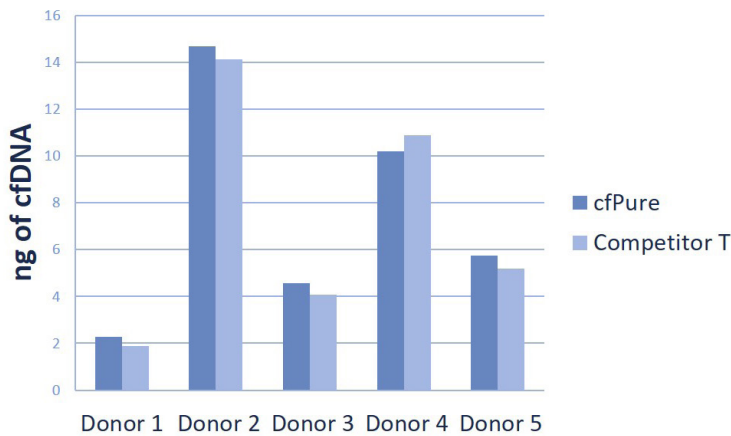
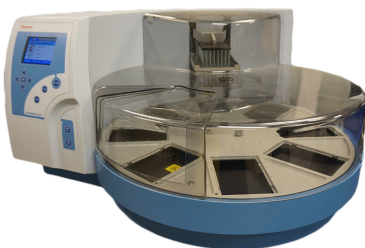


Figure 1. cfDNA was purified from 600 µl of plasma from 5 donors using the Kingfisher Flex 96 DW automated purification system with cfPure™ Cell Free DNA Extraction Kit and a competitor's magnetic bead-based cell free DNA extraction kit. cfDNA recovery was assessed by qPCR using primers complimentary to ALU sequence DNA.



### Advantages & Features

- Process 0.2mL - >10mL plasma or serum
- High yields, and excellent purity
- Reproducible results
- Rapid protocol (~40 minutes)
- Can be automated or performed manually
- Competitive pricing
- ISO 9001 & 13485 certified

### Applications:

- Next Generation Sequencing (NGS)
- Bisulfite Sequencing
- PCR, qPCR & ddPCR

### Efficient Recovery:

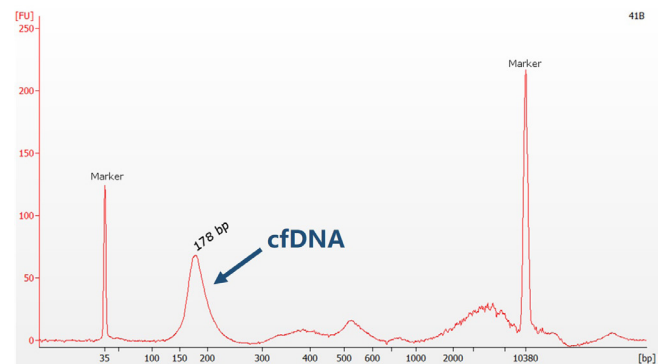


Figure 2. cfPure™ cell free DNA extraction kit was used to isolate DNA from 5 mL of healthy human plasma. 28.3 ng of cfDNA (150-200 bp fragments) were recovered.

### Reproducible Results

| Plasma ID | Total DNA Recovered (ng) |
|-----------|--------------------------|
| A         | 7.00                     |
| A         | 7.05                     |
| B         | 32.45                    |
| B         | 33.50                    |
| C         | 26.80                    |
| C         | 27.70                    |
| D         | 10.90                    |
| D         | 10.90                    |

Table 1. To assess reproducibility, DNA was extracted from 1 mL of plasma from 4 different human donors in duplicate using the cfPure™ cell free DNA extraction kit.

### Efficient Recovery of cfDNA Relative to Competition

| Extraction Kit     | Sample ID | cfDNA recovered per ml of plasma (ng) | 115 nt ALU sequence cfDNA per ml of plasma (ng) (by PCR) |
|--------------------|-----------|---------------------------------------|----------------------------------------------------------|
| Competitor T       | 1         | 4.99                                  | 1.97                                                     |
| BioChain's cfPure™ | 1         | 6.35                                  | 2.53                                                     |
| Competitor T       | 2         | 6.18                                  | 3.21                                                     |
| BioChain's cfPure™ | 2         | 8.28                                  | 3.93                                                     |
| Competitor T       | 3         | 6.93                                  | 3.79                                                     |
| BioChain's cfPure™ | 3         | 7.50                                  | 3.87                                                     |

Table 2. cfDNA was purified from 2 mL of plasma from three different donors by either the cfPure™ Cell Free DNA Extraction Kit or by a competitor's magnetic bead-based cell free DNA extraction kit. DNA recovery was assessed either by a fluorescent method or by qPCR using primers complimentary to ALU sequence DNA.

### Similar Performance in Next Generation Sequencing (NGS) to Column-based Methods

| Sample Name     | Competitor Q |       | BioChain's cfPure™ |       |
|-----------------|--------------|-------|--------------------|-------|
|                 |              |       |                    |       |
| On-Target Reads | 99.3%        | 99.4% | 99.4%              | 99.4% |
| Mapped Reads    | 97.4%        | 99.2% | 96.6%              | 99.1% |

Table 3. cfDNA extracted from human plasma by either the cfPure™ Cell Free DNA Extraction Kit or by a competitor's spin column-based cfDNA extraction kit were subjected, in duplicate, to next generation sequencing (NGS).

### Ordering Information

| Catalog No. | Product                              | Unit                                 |
|-------------|--------------------------------------|--------------------------------------|
| K5011610    | cfPure™ Cell Free DNA Extraction Kit | 100 (1 mL) preps<br>10 (10 mL) preps |
| K5011625    | cfPure™ Cell Free DNA Extraction Kit | 250 (1 mL) preps<br>25 (10 mL) preps |

\* For manual extraction, a magnetic rack or plate is required.

Please inquire about our other kits and applications.