LIQUID BIOPSY RESEARCH

# cfMAX™ cfDNA Isolation System

## MAXIMIZE BIOMARKER DISCOVERY FROM LIQUID BIOPSIES

SYSTEMBIO.COM/cfMAX

## HIGHLIGHTS

- ***Reliably achieve high yields of cfDNA***
- ***Maximize isolation of short DNA fragments while reducing contamination from longer genomic DNA***
- ***Get superior performance compared to competitor kits***
- ***Maximize productivity with the quick and easy magnetic bead isolation workflow***
- ***Suitable for a range of input volumes***
- ***Compatible with both manual and automated isolation workflows***
- ***Interchangeable with MagMAX™ cfDNA isolation kit in Kingfisher systems***

### Reliable insights from cfDNA start with high-quality, high-yield isolation

Isolating cfDNA from plasma and serum can be challenging, as the amount of cfDNA present in individual samples can vary widely[1] and analysis of cfDNA can be complicated by the presence of even low amounts of longer contaminating genomic DNA. With the cfMAX™ cfDNA Isolation System from SBI, you can overcome these challenges and consistently obtain higher yields of cfDNA than other kits can deliver (Figure 1) with a kit optimized for isolation of short DNA fragments. The result is more reliable downstream analysis and greater insights into disease states.

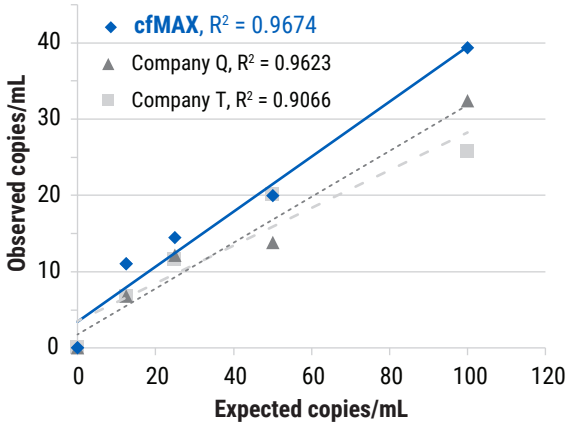


***Figure 1. The cfMAX cfDNA Isolation System extracts more cfDNA than other kits.*** *We added known amounts of a synthetic cfDNA to DNA-depleted plasma replenished with 5 ng of sheared genomic DNA and compared cfDNA isolation efficiency of the cfMAX cfDNA Isolation System to two competitor kits. The cfMAX cfDNA kit more consistently and linearly delivered the expected amount of the spiked-in DNA than the competitor kits (n=3 for each data point).*

### A faster workflow than competitor cfDNA isolation kits

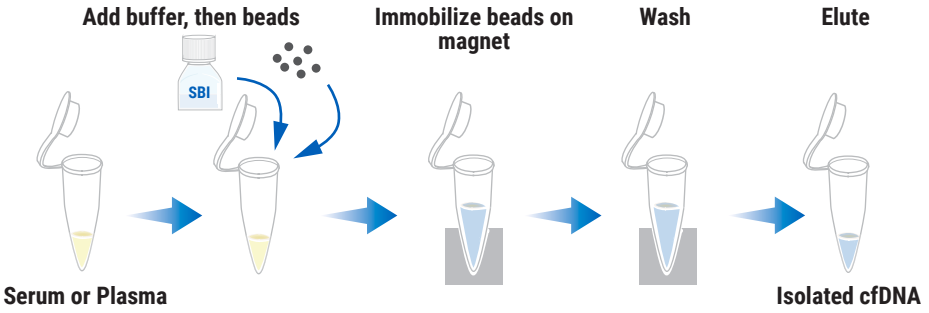


***Figure 2. The fast cfMAX workflow.***

The cfMAX cfDNA Isolation System uses a fast and simple magnetic bead isolation workflow—lyse your serum or plasma sample with the included cfMAX buffer, add beads, immobilize beads with the magnet, wash the beads, and elute cfDNA.

SBI
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Harnessing innovation to drive discoveries

## See the excellent performance of the cfMAX cfDNA Isolation System

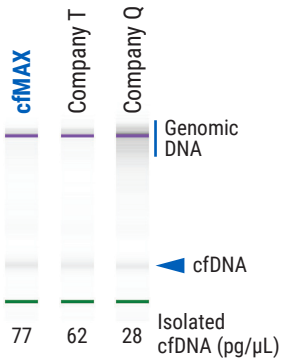
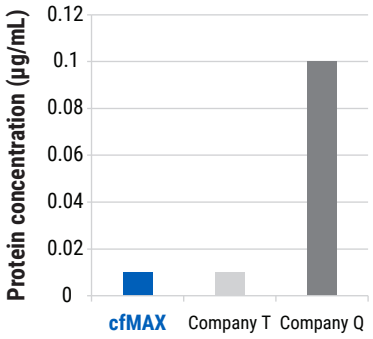



***Figure 3. cfMAX delivers cfDNA with less contaminating genomic DNA and higher yields of cfDNA than competing kits.*** *We isolated cfDNA from 2 mL of plasma using the cfMAX System and two competitor kits. The cfMAX system shows less contaminating genomic DNA than the other kits.*

***Figure 4. cfMAX delivers cfDNA with less protein carryover than competing kits.*** *We isolated cfDNA from 2 mL of serum using the cfMAX System and two competitor kits. The cfMAX system shows significantly less protein carryover than Company Q's kit, and similar low amounts of protein carryover as Company T's kit, as determined by Qubit Protein Assay.*



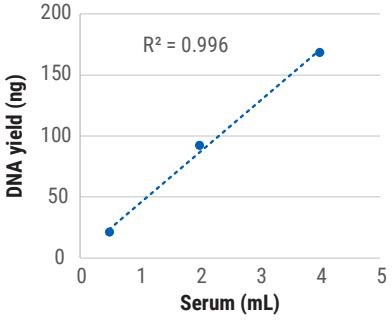




***Figure 5. cfDNA isolation with cfMAX is scalable.*** *We isolated cfDNA from increasing volumes of the same serum sample using cfMAX. Isolation is highly linear across the input sample volumes.*

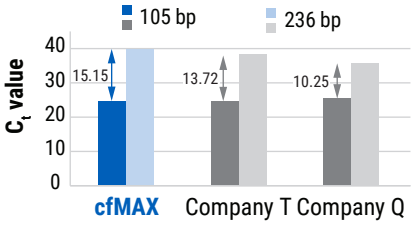



***Figure 7. cfMAX is optimized for isolating smaller DNA fragments.*** *Using 105- and 236 bp fragments of GAPDH, we assessed the efficiency of DNA isolation by cfMAX and the other kits from serum. The DNA isolated by the cfMAX kit shows a much larger difference in $C_t$ values than the DNA isolated from the other kits, indicating that the cfMAX kit more preferentially isolates smaller DNA fragments.*

## Building the tools that speed your research

*With an eye on the latest advances, SBI finds promising technology and converts it into easy-to-use tools accessible to any researcher. Our growing Liquid Biopsy Research product portfolio is just one example. See what other ways SBI can drive your research forward—visit us at* ***systembio.com****.*

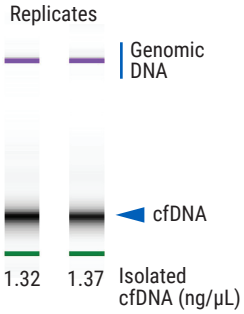



***Figure 6. cfDNA isolation with cfMAX is reproducible.*** *We isolated cfDNA from 2 mL of the same serum sample in duplicate using cfMAX. The similar yields demonstrate the reproducibility of cfMAX.*

## Reference

1. Babji D, Nayak R, Bhat K, and Kotrashetti V. Cell-free tumor DNA: Emerging reality in oral squamous cell carcinoma. J *Oral Maxillofac Pathol*. 2019 May-Aug; **23**(2): 273–279. PMCID: PMC6714275

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