



Apostle™ MiniMax High Efficiency cfDNA Isolation on Biomek i5

Apostle MiniMax

The Apostle MiniMax protocol uses paramagnetic bead-based technology to isolate circulating cell-free DNA (cfDNA) from plasma, serum, and urine. The low concentration and small size (140 to 180 bp) of cfDNA fragments pose challenges for extracting DNA of sufficient yield and quality for downstream applications. In the method, lysis buffer and Proteinase K is added to samples, followed by the binding buffer to immobilize DNA on magnetic particles. The beads are then washed multiple times to remove contaminants, and purified DNA is subsequently eluted.

Extraction Process Workflow



Estimated Time

Batch	Hands-on Time	Total Time
24 samples	15 min	3 hr, 17 min
48 samples	20 min	4 hr, 47 min

Estimated times are for 4 mL input volumes. Smaller input volumes will reduce total time.

Input Material

Sample Type	Amount
Plasma	1 to 4 mL
Serum	
Urine	

Reagents

Description	Supplier
Apostle™ MiniMax High Efficiency cfDNA Isolation Kit	Beckman Coulter
100% Ethanol (molecular grade)	User

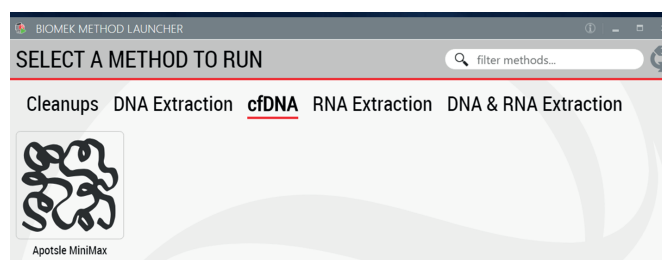
Consumable Plastics

Description	Manufacturer	Quantity (48-sample run)
Biomek i-Series 1025 µL Tips, sterile filtered, rack	Beckman Coulter	6
Biomek i-Series 190 µL Tips, sterile filtered, rack	Beckman Coulter	1
Full Reservoir, sterile	Beckman Coulter	2
Quarter Reservoir, sterile	Beckman Coulter	1
Quarter Reservoir, sterile, divided by length	Beckman Coulter	1
Hard-Shell® Thin-Wall 96-Well Skirted PCR Plates, clear wells	Bio-Rad	1
Axygen™ 24-well Clear V-Bottom, 10 mL, Polypropylene Rectangular Well Deep Well Plate	Corning	2
Nunc™ Microplate Lid	Thermo	5
Reservoir, single cavity, polypropylene, 300 mL, 96 pyramids base geometry	Agilent	1

Method Operation

Biomek Method Launcher (BML)

organizes methods into useful groups.



Method Options Selector (MOS)

enables flexibility specific to your sample process batch size, process options and workflow customization.

Beckman Coulter® Apostle™ MiniMax High Efficiency cfDNA isolation protocol

Optimized for Biomek i5 MC Automated by Beckman Coulter, Inc

Method Options

Enter Number of Samples: 8-48 samples

Enter the Sample Volume in Microliters: 1000-4000 microliters

Select Sample Type:

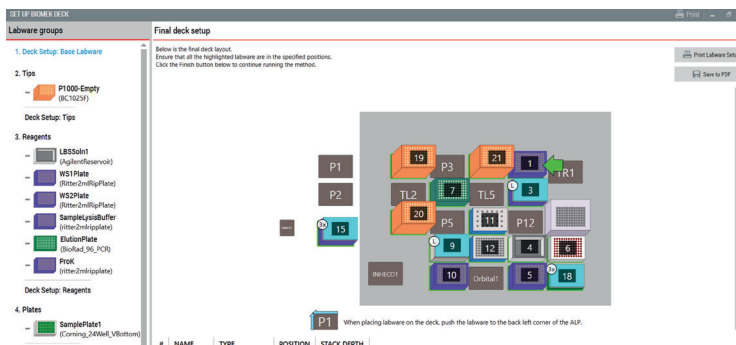
Enter the Elution Volume in Microliters: 20-100 microliters

Run Method Setup (check box) ☒

Run cfDNA Extraction (check box) ☒

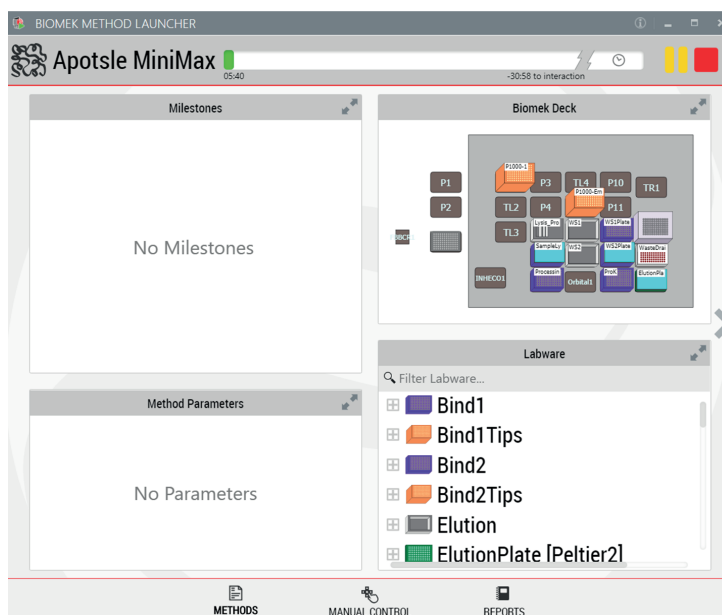
Guided Labware Setup (GLS)

provides clear instructions to set-up the instrument deck with calculated reagent volume and step-by-step instructions to prepare reagents based on options selected.



Run Status Screen (RSS)

shows run progress, current activity and time to completion.



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