



Apostle MagTouch 1000

Nucleic Acids Extraction Automation System

Industry-leading automation extraction solution for
cell-free and genomic nucleic acids

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COMPANY INTRODUCTION

Apostle, Inc. was founded in the Silicon Valley with a mission to improve the sensitivity and specificity of liquid biopsy through its innovative technologies. The company has developed a number of proprietary technologies for cell-free nucleic acid preservation, extraction and related data analysis. It has been selected into BioSpace “Top 20 Life Science Startups” and Stanford University StartX in 2018, and has established a global exclusive partnership with Beckman Coulter on its Apostle MiniMax[®] cfDNA Isolation Kit in 2019.



January, 2018
BioSpace Top 20 Life Science Startups

April, 2018
Stanford University StartX

September, 2018
ISO9001:2015 (Shenzhen, China site)

November, 2018
Apostle and Apostle MiniMax trademarks registration

February, 2019
Beckman Coulter Life Sciences Enters Liquid Biopsy Partnership with Apostle

February, 2019
A study on the Apostle MiniMax[®] technology presented at AGBT 2019

March, 2019
A study on the Apostle MiniMax[®] technology presented at AACR 2019

March, 2019
ISO13485:2016 (Shenzhen, China site)

April, 2019
ISO13485:2016 & ISO9001:2015 (Menlo Park, CA, USA site)

May, 2019
Apostle MiniMax[®] cfDNA Isolation Kit was featured in *Science* magazine, New Products section

A thriving story continues...

CORPORATE EVENTS

March, 2017
Apostle, Inc. was founded in the Silicon Valley, CA

July, 2017
Forbes China 30 Under 30

July, 2017
Apostle's 1st PCT patent application submission

August, 2018
Amazon Web Service Activate Gold Premium Support

August, 2018
Finalist of North America Region, CACSC

2017

2018

2019

1. Overview

- High-throughput automation platform for nucleic acid extraction
- Compatible with Apostle MiniMax[®] High Efficiency cfDNA Isolation Kit and Apostle MiniGenomics[®] Genomic DNA isolation Kit
- 24-channel large volume samples per run for cfDNA isolation and 96-channel small volume samples per run for gDNA isolation
- Turntable for up to 8 plates
- Flexible working volume per well: 50 ~ 5000 μ L
- Compatible with processing 50 – 6000 μ L sample volume
- Working time per run: ~ 30 – 90 mins
- Dimension: 610*455*640 mm

2. Environmental Requirements

- Surrounding temperature: 10°C-40°C
- Humidity below 80%
- Voltage requirements: AC 110V– 230V, 50 Hz/60Hz, 300W
- Operation desk: Bearing weight beyond 50 kg

3. Features

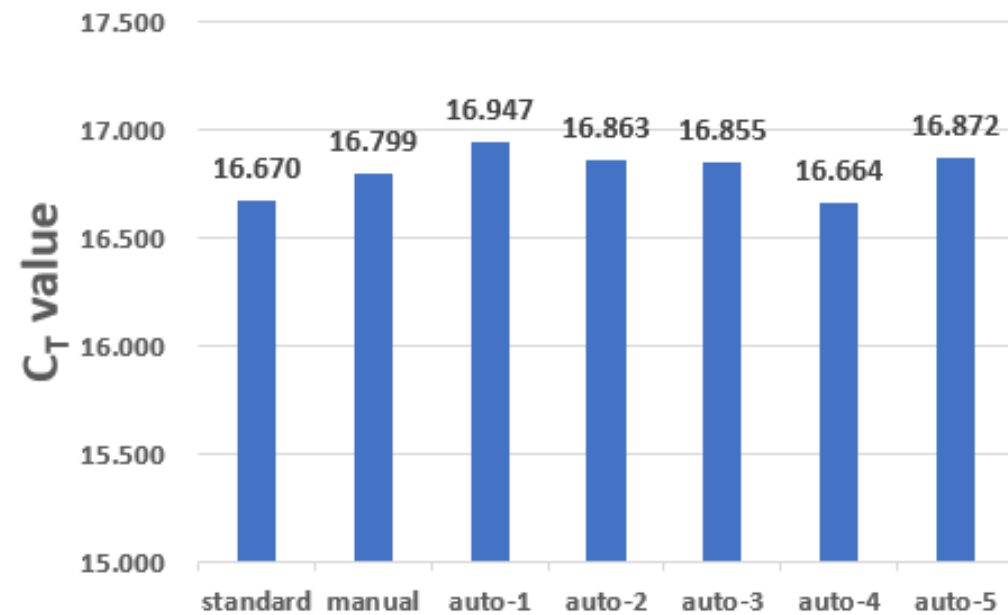
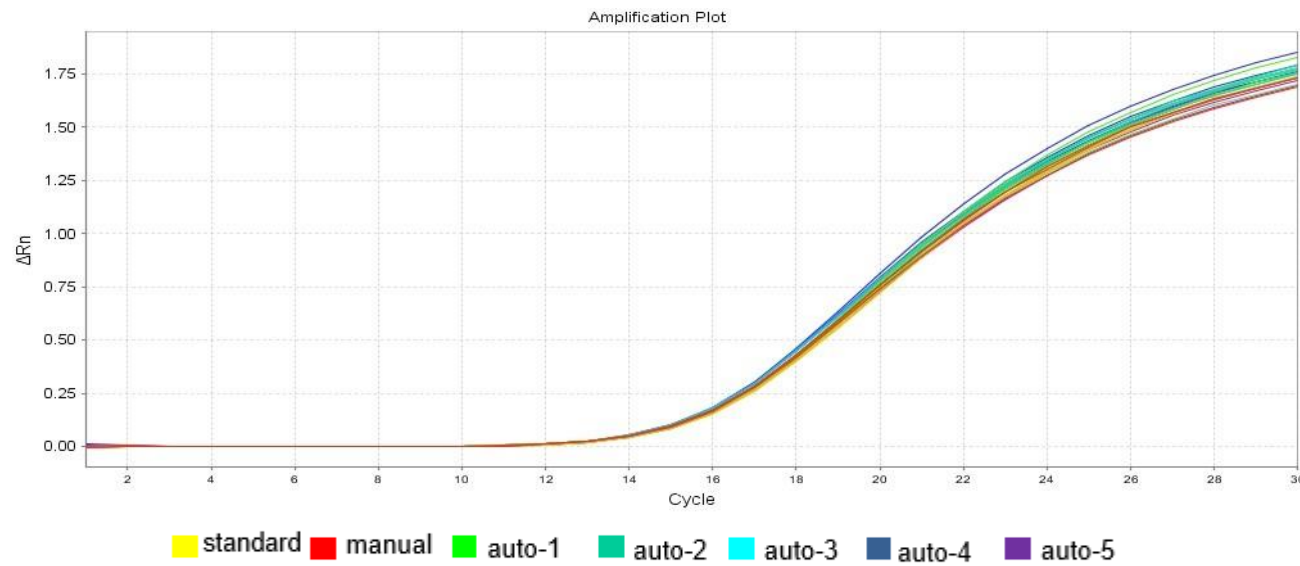
- Touchscreen operation and one-button start
- Build-in UV light for sterilization
- High-efficiency and high-throughput extraction
- Programmable procedure
- Novel magnetic field settings for high recovery of magnetic beads
- Five different mixing speed
- Vibration extent of the magnetic head automatically matches the reagent volume during mixing
- Precise temperature control within 25-80°C

4. Modules

	Modules	Description of Functions
1	Plastic tip comb module	Mixing; transfer magnetic beads
2	Magnetic head module	Magnetization of beads
3	Turntable module	Switch of plates
4	Thermal module (optional)	Temperature control
5	Shield module	Prevent potential cross contamination
6	UV sterilization module	Sterilization
7	Working lamp module	Illumination

5. Test Reports

5.1 Efficient extraction



Standard EGFR fragment with size around 170 bp containing L858R mutation was spiked into nucleic acid-free FBS, which was then equally split into 6 portions. 5 portions were extracted automatically by Apostle MagTouch 1000 and 1 portion was extracted manually. All extracts were analyzed by q-PCR to evaluate the recovery rate of EGFR fragment.

Both manual extraction and automated extraction achieved high efficiency extraction of EGFR fragment.

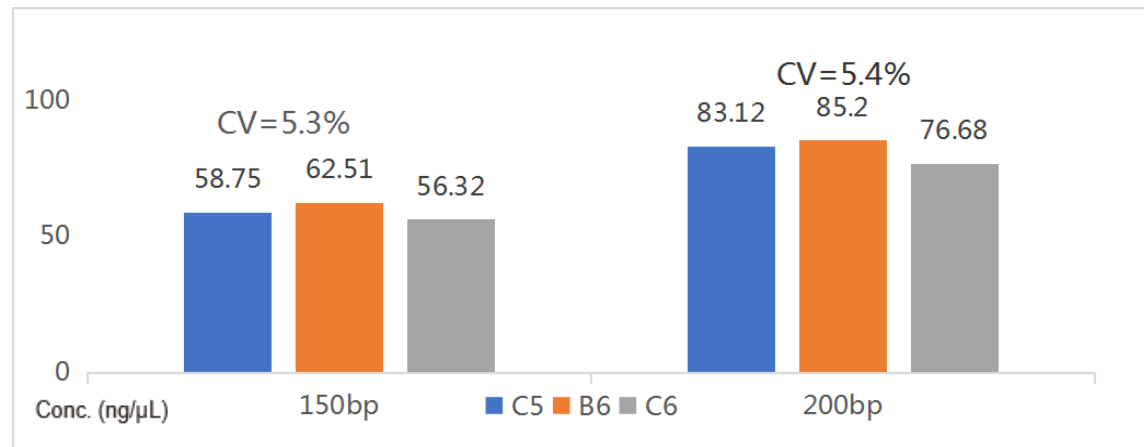
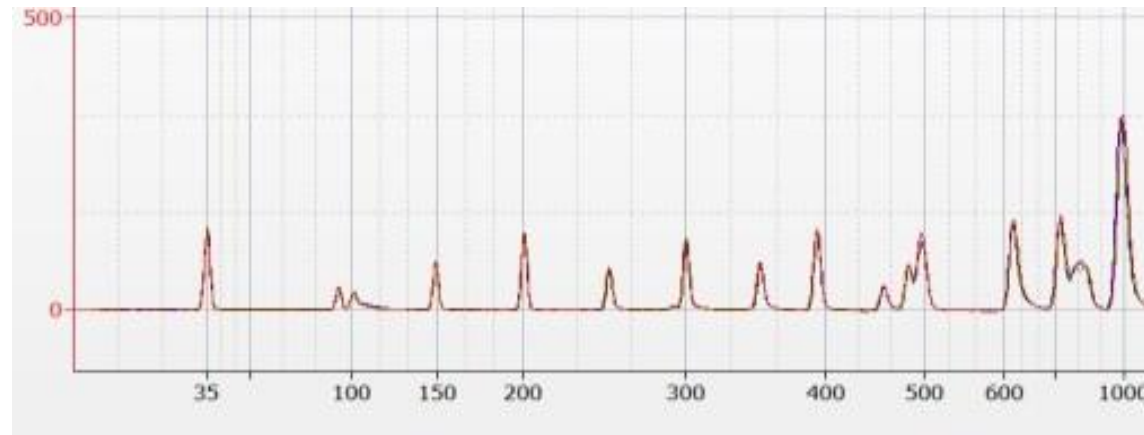
5.2 Comparison between manual and automated extraction

Standard DNA ladder was spiked into nucleic acid-free FBS. The sample was equally split into 7 portions and the volume of each portion was 4 mL. 6 portions were automatically extracted by Apostle MagTouch 1000 and 1 portion was manually extracted. The results are shown as below:

No.	Conc. (ng/μL)	Volume (μL)	Amount (ng)	CV	Ratio of automated extraction to manual extraction
Auto-1	1.45	100	145	3.0%	94.2%
Auto-2	1.43	100	143		92.9%
Auto-3	1.45	100	145		94.2%
Auto-4	1.49	100	149		96.8%
Auto-5	1.41	100	141		91.6%
Auto-6	1.43	100	143		92.9%
Manual	1.54	100	154		/

Comparable results between manual extraction and automated extraction.

5.3 Consistency within batch of automated extraction



Standard DNA ladder was spiked into nucleic acid-free FBS. The sample was equally split into 3 portions, which were then added into 3 different wells (C5, B6, C6) within the 24-well plate, respectively, for the automated extraction by Apostle MagTouch 1000. The extracts were analyzed by Agilent Bioanalyzer 2100 to evaluate the well-to-well consistency.

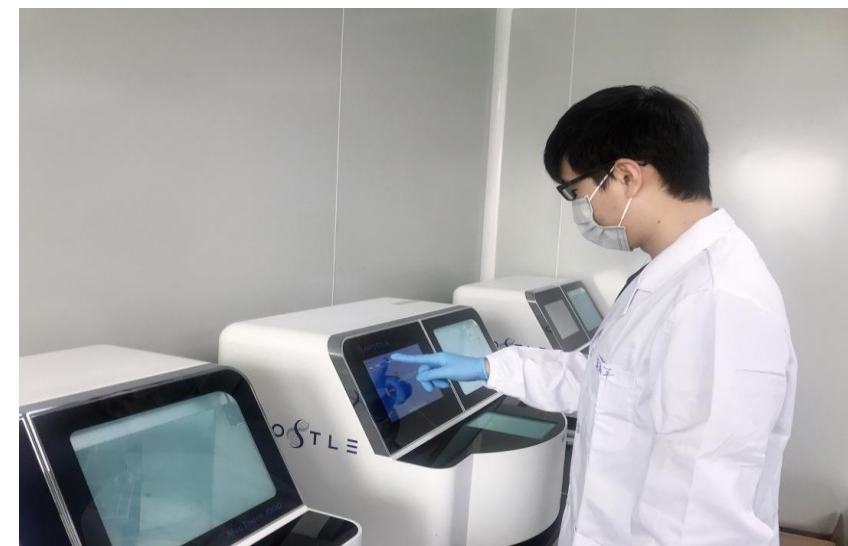
Excellent well-to-well reproducibility, with CV<6%

5.4 Consistency among batches of automated extraction

Standard DNA ladder was spiked into nucleic acid-free FBS. The sample was equally split into 9 portions. The 9 portions were then equally divided for 3 batches to evaluate the consistency among batches of automated extraction by Apostle MagTouch 1000 .

Well#	Batch#	Conc. (ng/μL)	Volume(μL)	Amount (ng)	CV
1	1	1.33	100	133	3.0%
	2	1.24	100	124	
	3	1.31	100	131	
2	1	1.34	100	134	3.3%
	2	1.29	100	129	
	3	1.39	100	139	
3	1	1.32	100	132	0.4%
	2	1.31	100	131	
	3	1.31	100	131	

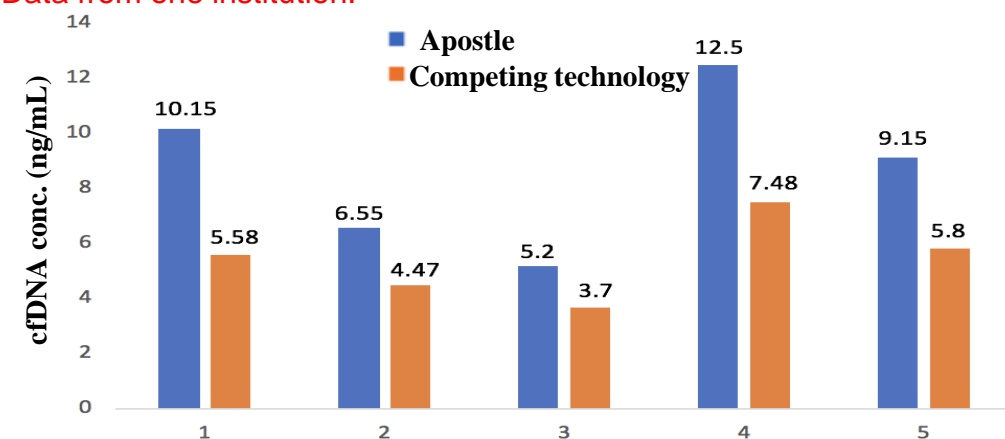
Excellent batch-to-batch reproducibility, with CV<4%



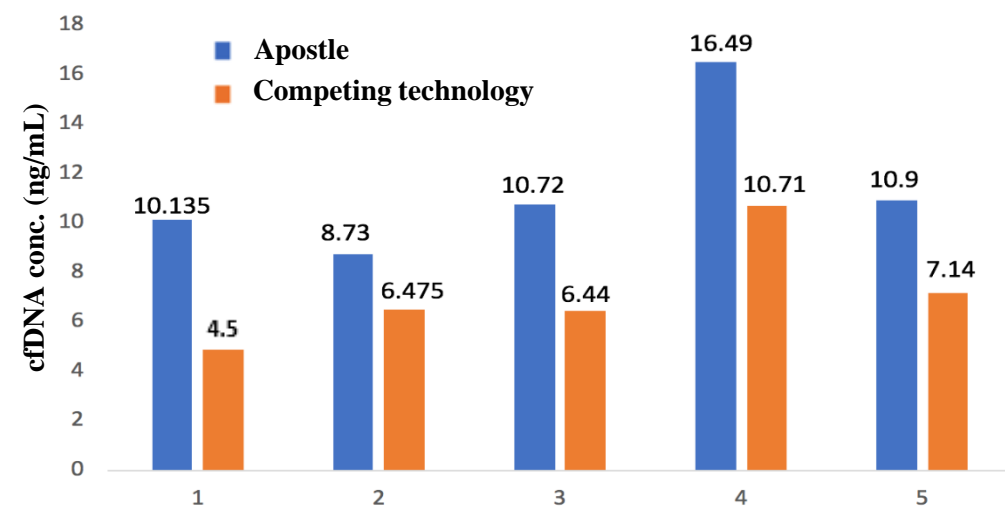
5.5. Comparison with a competing technology

Apostle's automated extraction solution (Apostle MagTouch 1000 Automated machine + Apostle MiniMax[®] High Efficiency cfDNA Isolation Kit) was compared side by side with a competing technology (Competitor's Automated Purification System + Competitor's Cell-Free DNA Isolation Kit) for the extraction of cfDNA from human plasma by two independent institutions.

Data from one institution:



Data from another institution:



technology for the extraction of cfDNA. These data indicate that Apostle's automated extraction solution shows a better performance than a competing

6. Order Information

Production Name	Model#
Nucleic Acids Extraction Automation System	Apostle MagTouch 1000



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