

# Mara Nanotech New York Inc.

## Executive Summary

Using nanotechnology for faster, cheaper, more accurate solutions in healthcare and biotech



### Contact Information

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### Industry

Medical Device  
Cardiovascular Diagnostics

### Development stage

Startup, prototype development

### Year founded

January 12, 2016

### Finance

- Seed Fund: \$500K
- R&D Grant: about \$2M
- Self-funded: about \$100K
- Debt: None
- Funding Sought/Purposes: \$1M  
: R&D, Personnel expenses,  
Clinical testing, Operating costs

### Management

#### Executive Leadership

- HeaYeon Lee, PhD, Founder, CEO
- Kyeong H. Yang, PhD, CSO

#### Board

- NaYoung Yang,  
Healthcare Market Strategy Staff
- YoungTae Seo,  
Digital Healthcare R&D Staff

#### Scientific Advisory Board

- David D. McManus, MD, PhD  
Advisor (Healthcare)
- Haksoo Choi, PhD  
Advisor (R&D)
- Myung Jong Lee, PhD  
Advisor (Digital Healthcare)
- SuRyun Shin, PhD  
Advisor (Nanobiosensor)

Mara Nanotech New York, Inc. is a nanomedical device company that focuses on developing a nanowell array-based mobile electrochemical cardiovascular self-diagnostics platform.

### MARKET OPPORTUNITY

*Potential customers:* General consumers who have experienced heart failure (HF) for the last 4 years

- Current optical diagnoses and PCR techniques are expensive, and on-site diagnostics are not possible due to large equipment.
- Almost no on-site diagnosis for detection of cardiovascular disease, immune diseases, cancer-related disease, and infectious diseases.
- Need for an advanced self-diagnostics technique that can quickly, accurately and quantitatively detect in-vivo proteins of trace amounts with a few pg/ml
- Limited to high-cost/complicated regulation of nanobiosensor that can overcome sensitivity, accuracy, specificity, and low detection limit (a few pg/ml)
- Market size: In-Vitro diagnostics market \$72.9 billion by 2023 (2019 WZVN) :  
: Electrochemical biosensor market \$23 billion by 2022 (2019 WZVN)  
: Nano Biosensor market \$21 billion by 2022 (2020 MarketsandMarkets Research)  
: Cardiovascular market \$1.7 billion by 2023

### PRODUCT (Launched & In Pipeline)

- Nanowell biosensor kit for cardiac home-care testing (Troponin, Myoglobin)  
: Array of nano-sized wells (diameter 250nm) that allows control of individual molecular reactions (high precision: Disease progression level)
- MP101 : Portable electrochemical biosensor analyzer
- NWA101 sensor: Amplification of diagnostic signals of biological materials
- UMS201 sensor (USB type Milli size)
- UMWA301 sensor (USB type microsize well)
- UNWA401 sensor (USB type nanowell array)
- Biosensor platform: Technology can be altered to track biomarkers for other diseases) : Quantification of disease diagnosis results

### INTELLECTUAL PROPERTY

- 2 core patents
- 8 patent applications
- 6 trademarks registered
- 2 patents in pipeline

### COMPETITION

- Roche: Cobas system: TnT
- Abbott: Alere: Triage Acrdio2: TnI / Abbott: iSTAT: TnI
- 

Current solutions are either expensive, slow, bulky, or require higher volumes of liquid biopsy to detect the same biomarker with high accuracy. Mara Nanotech's nanowell biosensor has a lower LOD and requires less volume to conduct the test.

### FINANCIAL PROJECTIONS (UNAUDITED)

	2020	2021	2022	2023	2024
Total product revenue	325347	764725	3,798,000	23,040,000	92,160,000
Gross Profit	212824	497070	2,400,000	10,560,000	63,600,000
Gross margin (%)	34	35	37	54	69

(Unit: \$)