

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 OR 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): August 19, 2014

**PRESSURE BIOSCIENCES, INC.**  
(Exact name of registrant as specified in its charter)

Massachusetts  
(State or other jurisdiction of incorporation)

000-21615  
(Commission File Number)

04-2652826  
(IRS Employer Identification No.)

14 Norfolk Avenue  
South Easton, Massachusetts 02375  
(Address of principal executive offices)(Zip Code)

Registrant's telephone number, including area code: (508) 230-1828

N/A  
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 8.01 Other Events.**

The Company presented at the Wall Street Research Conference on August 19, 2014. The power point presentation information furnished on Exhibit 99.1 is hereby incorporated by reference under this Item 8.01 as if fully set forth herein.

The information contained in this Current Report, including Exhibit 99.1 are being furnished and not filed pursuant to this Item 8.01 of Form 8-K. Such information shall not be deemed to be “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liabilities of that section, and shall not be deemed to be incorporated by reference into any of the Company’s filings under the Securities Act of 1933, as amended, or the Exchange Act whether made before or after the date hereof and regardless of any general incorporation language in such filings, except to the extent expressly set forth by specific reference in such a filing.

**Item 9.01 Financial Statements and Exhibits.**

- (d) Exhibits

**Exhibit No. Description**

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[99.1](#) Company information – “Power Point Presentation” dated August 19, 2014 (filed herewith).

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

**PRESSURE BIOSCIENCES, INC.**

Date: August 25, 2014

By: /s/ Richard T. Schumacher

Richard T. Schumacher

President and Chief Executive Officer

***Investor Presentation***

**Pressure BioSciences, Inc.**  
**(OTCQB: PBIO)**

*Discovery Starts  
with Sample Preparation™*

***WallStreet Research***  
**August 19 & 20, 2014**

Richard T. Schumacher  
President, CEO, Board Member



## *Forward Looking Statements*

This presentation may contain forward looking statements that reflect management's current views and opinions as to the status of the Company's products, technology and other future events and operations. These statements are neither a promise nor guarantee, but involve risks and uncertainties that could cause actual results to differ materially from those anticipated or indicated. Investors are cautioned that any forward looking statements should be considered in light of such risks and uncertainties including, without limitation, those detailed in the Company's filings with the Securities and Exchange Commission.



## Company Overview

- OTCQB: PBIO
- Nine (9) FT Employees; Strong Mgmt Team and Board of Directors
- 24 Patents: Pressure Cycling Technology (PCT) Platform
- ~32M Common Shares/CS Equivalents OS (Float ~12M)
- Market Cap (fully diluted): \$11.2 Million
- Development and Sale of PCT-based Products (Instruments and Consumables) for the Preparation of Samples for Scientific Research
- Approximately 250 PCT Systems Installed, 150 Customers, 100 Publs
- Early Revenue (grants/products): 2011 (\$988K), 2012 (\$1.2M), 2013 (\$1.5M)
- 1H 2014 Product Revenue (no grants): \$711K ...up 70%
- **Focus: Supporting Biomarker Discovery & Forensics Labs WW with Novel & Enabling PCT-based Sample Preparation Products**



## Experienced Senior Management & Board

### Management

- **Mr. Richard T. Schumacher, President & CEO**  
Boston Biomedica (CEO, Founder); Panacos Pharma (President, Co-founder);  
Trinity Biotech (Founding Group); CBR Labs (Gen' I Mgr) - Harvard Medical School
- **Dr. Edmund Y. Ting, Senior Vice President of Engineering**  
Avure Technologies (CSO); Flow Int' I (CSO); Grumman Aerospace; MIT (Ph.D.)
- **Dr. Alexander V. Lazarev, Vice President of R&D**  
Proteome Systems; Genomic Solutions; ESA; University of Kazan (Ph.D.)
- **Dr. Nathan P. Lawrence, Vice President of Marketing**  
Boston Biomedica; BD; Gene-Trak Systems; Yale University (Ph.D.)
- **Mr. Richard P. Thomley, Chief Financial Officer**  
Kiva Systems; SynQor; Catamount Manufacturing; ChemDesign Corp

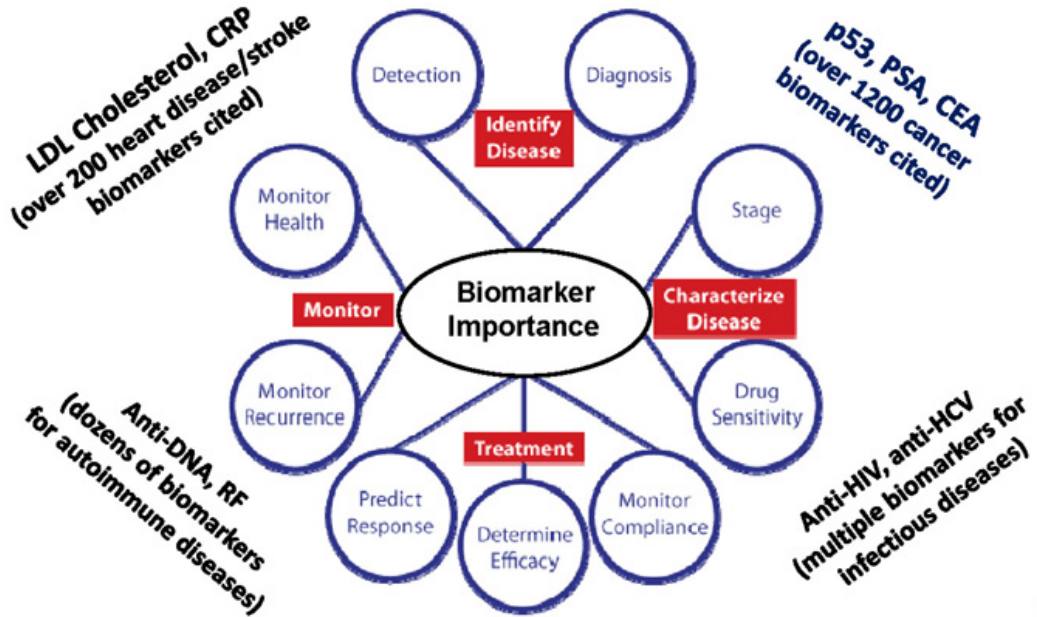
### Board

- |                            |                                 |
|----------------------------|---------------------------------|
| • Jeffrey Peterson, MS     | Chairman                        |
| • Kevin Pollack, Esq., MBA | Audit Committee Chairman        |
| • Vito Mangiardi, MBA      | Compensation Committee Chairman |
| • Mickey Urdea, Ph.D.      | SAB Chairman                    |
| • Richard T. Schumacher    |                                 |



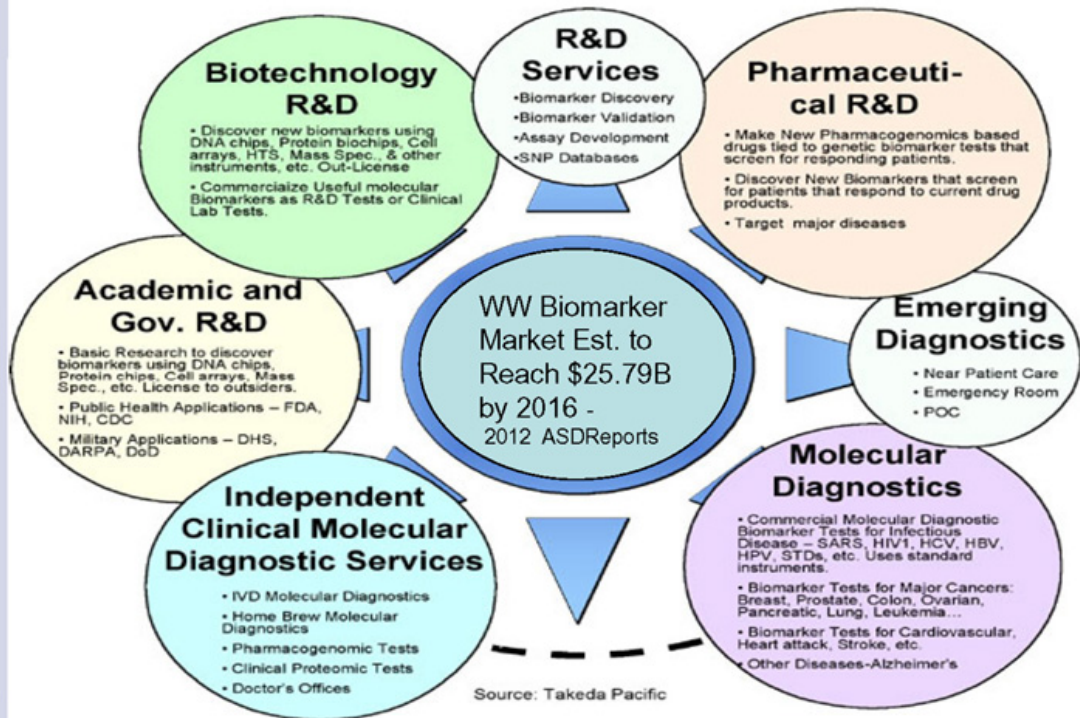
## What is a Biomarker?

Molecules (e.g., genes, proteins, lipids) found in tissue (e.g., cells) or body fluids (e.g., blood) that correlate – directly or indirectly – with the presence or absence, the progression or recurrence, and the effects of treatment on a disease or a disorder.





## Estimated Market: Biomarker Discovery



## Value Proposition: PCT-based biological sample preparation

- Analysis of DNA, RNA, Proteins, & Lipids (“biomolecules”) is Crucial to the Discovery of New Biomarkers
- The Quality of Biomolecule Analysis Depends Significantly on the Quality of the Preparation of the Sample to be Analyzed
- Biological Sample Preparation is a Multi-Billion Market Comprised of an Estimated 500,000 Scientists in 80,000 Research Labs WW
- Current Sample Prep Methods are Highly Inadequate: Bottleneck
- Proven Platform: ~ 250 PCT Systems Installed (~150 Sites)
- Over 100 Publications Highlight the Clear Advantages of the PCT Platform Over Current Competitive Products
- Q1 2014: Released First-in-Kind Ultra-HP Instrument (100,000 psi)
- Q2 2014: Released our Novel, PCT-based Consumable for the Processing of Small Tissue Samples
- **Q2 2014: Released our PCT High Throughput System (microwell strips)**

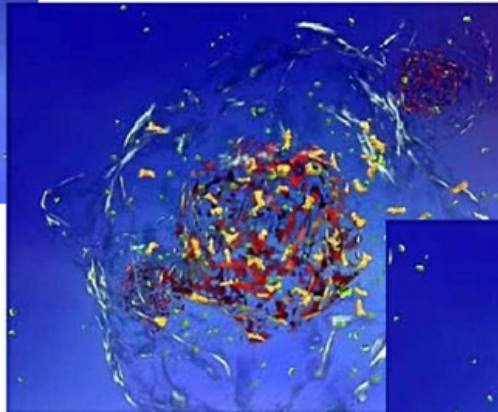


## *Sample Preparation*

Sample preparation is a term that refers to a wide range of activities that precede virtually all forms of scientific analysis. Sample preparation is often complex, time-consuming, and one of the most error-prone steps of scientific research. It is none-the-less a ubiquitous laboratory undertaking whose requirements drive a large and growing market, worldwide.

- The Emmes Group (2008)

## *Primary Sample Preparation for Biomolecular Analysis: Cell Lysis*



**PBI**

## *Tools for Discovery*

### **500,000 Scientists in 80,000 Biological Research Labs WW Assortment of Analytical Instruments Used in the Discovery Process, e.g.,**

- HPLC (est. of over 230,000 systems currently in use)
- Mass Spectrometers (est. of over 16,000 MS labs WW)
- DNA Sequencers, Real Time PCR
- Electrophoresis (1D, 2D, Western Blots, Southern Blots, etc.)
- Spectroscopy (NMR, EPR, CD, Raman, etc.)
- Immunoassay Analyzers (ELISA, RIA, microarrays, etc.)

**What do all these analytical instruments have in common?**

***The quality of the results generated is directly related to the quality of the preparation of the sample to be analyzed***



**Sample Input Quality = Sample Result Quality**



**Scientific research can be broken down to three key elements:  
sample preparation, analysis, & data reduction/interpretation**

*“Discovery Starts with Sample Preparation”*

**PBI**

## Biomarker/Forensics Sample Prep Market: Estimated Size

- Genomics (DNA/RNA) Market to Reach \$7.1B in 2015 <sup>b</sup>
- Next Generation Sequencing (DNA) Market to Reach \$2.7B in 2017<sup>c</sup>
- Mass Spectrometry Market (Proteins/Lipids) at \$2.7B in 2011 and Predicted to Increase at a CAGR of 7.83 Percent for 2011–2015 <sup>a,d</sup>
- Forensic Tools and Products (DNA) to Reach \$17.7 B in 2019 <sup>e</sup>
- Sample Prep for Genomics, Proteomics, Lipidomics: \$8.4B in 2016 <sup>f</sup>

<sup>a</sup> EMMES Group

<sup>b</sup> Decisive Bio-Insights

<sup>c</sup> Markets & Markets

<sup>d</sup> TechNavio

<sup>e</sup> Transparency Market Rsh

<sup>f</sup> bcc Research

- **500,000 Scientists in 80,000 Biological Research Labs WW** <sup>a</sup>  
(studying human, animal, plant, and microbial biomolecules (DNA/RNA/Proteins/Lipids) to better understand how structure/function/presence relates to diseases/disorders, etc.)

**PBI**

## Competitive Landscape

### Nearly All Competitive Methods Involve Mechanical Disruption

- Mortar & Pestle
- Dounce homogenizer (glass on glass)
- Potter-Elvehjem homogenizer (Teflon on glass)
- Enzymatic Digestion
- Polytron shearing homogenizers
- Blenders
- Bead Beating
- Sonication
- Repeated Freeze/Thaw cycles
- French Press ( $\leq 2000$  PSI)



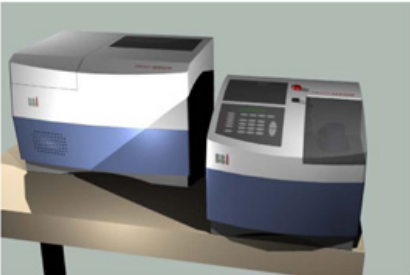
**PBI**



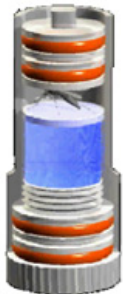
# PCT Sample Preparation System



Barocycler™  
NEP2320



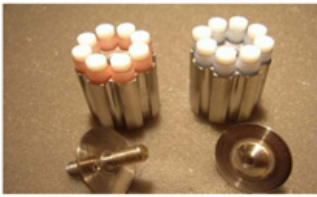
Barocycler™ NEP3229



PULSE Tube



MicroTubes



PCT-dependent Kits



## Selected Marquee Customers (40 of 150)

- Amgen
- Biogen
- Lilly
- Novartis
- Monsanto
- BM Squibb
- Merck
- Centocor
- Takeda Pharmaceuticals
- Momenta Pharmaceuticals
- US Army
- FBI
- Food and Drug Administration
- US Department of Agriculture
- National Institutes of Health
- Armed Forces Inst. of Pathology
- Centers for Disease Control
- USAMRIID
- Regeneron
- Burnham Research Institute
- Thermo Fisher
- Target Discovery
- Battelle Memorial Institute
- Harvard Medical School
- Harvard School of Public Health
- Rockefeller University
- University of New Hampshire
- Barnett Research Inst (NEU)
- UCLA
- Cedars-Sinai
- UC - Davis
- Lawrence Livermore
- Stanford University
- University of North Texas
- Mississippi State
- Montana State
- Lawrence Berkeley
- University of Kentucky
- Florida Int'l University
- UMASS – Boston



## ***PCT Focus Area: Biomarker Discovery & Forensics***

### ***Biomarker Discovery: Cancer, Heart Disease, Stroke, Inf. Diseases, Etc.***

**Dr. Andreas Huhmer – Thermo Fisher Scientific**

...advantages of speed and quality using PCT in mass spec workflow

**Dr. Michael Alterman – Tumor Vaccines and Biotechnology Branch, CBER, FDA**

...improved influenza vaccine quality using PCT in mass spec workflow

**Dr. Alexander Ivanov – Harvard School of Public Health**

...improved membrane protein identification using PCT in mass spec workflow

**Dr. Luke Schneider, Target Discovery, Inc.**

...improved membrane protein recovery in ovarian cancer studies using PCT in mass spec workflow

**Dr. Jennifer Van Eyk, Johns Hopkins School of Medicine**

...improved recovery of aorta proteins from FFPE samples using PCT

**Dr. Wayne Hubbell, Distinguished Professor, Dept. of Chemistry & Biochemistry, UCLA**

...excited states of proteins may help scientists understand the important roles of protein structure and function

**Dr. Hans Robert Kalbitzer, Professor, University of Regensburg**

...rare interaction states of proteins detected by high-pressure NMR spectroscopy

**Dr. Ruedi Aebersold, Institute of Molecular Systems Biology, ETH Zurich, Switzerland**

...identify and quantify low-abundance signaling protein networks in human tissues with PCT-SWATH



## ***PCT Focus Area: Biomarker Discovery & Forensics***

### **Forensics**

**Dr. Bruce Budowle, Health Science Center, University of North Texas**

...improved detection of DNA in forensic samples using PCT

**Dr. Bruce McCord, Florida International University**

...improved processing of forensic (rape kit) samples using PCT

**Dr. Pam Marshall, University of North Texas Health Science Center**

...PCT reduces effects of inhibitors of the PCR

**Dr. Henry C. Lee, the Henry C. Lee Institute of Forensic Science**

...evaluation of PCT in the recovery and detection of DNA in difficult forensic samples

**Dr. Roger Kahn, Harris County Institute of Forensics**

...extraction of low template forensic DNA samples

**Dr. YUAN Mei-qing, Institute of Forensic Sciences, Ministry of Public Security, Beijing**

...a rapid and effective bone DNA extraction method using PCT

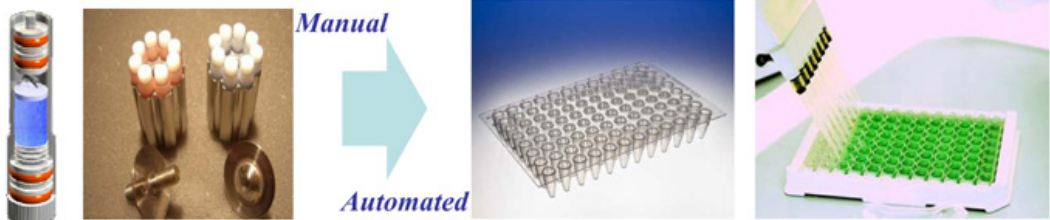
**Dr. Arthur Eisenberg, Inst of Investigative Genetics, Dept. of Forensics and Investigative Genetics,  
University of North Texas Health Science Center**

...PCT applications for DNA extractions from challenging forensic samples



## The Problem

Automated liquid handling helps ensure accuracy and reproducibility, eliminates repetitive tasks, and frees personnel for other activities.



**PBI**

## The Solution (4 years in the making)



**June 2014  
Planned Release  
ASMS Annual Meeting**

- **Initial Application:**
  - High pressure digestion
- **Consumable:**
  - Proprietary 8-well strips
- **Number of Samples:**
  - 48 samples
- **User Control:**
  - Easy to use touch screen
  - LabView Software

**PBI**

**Barozyme HT48: High Throughput PCT Processing**  
Planned Release - June 16, 2014



## *Initial (Jan 2015) Commercial Application: Barozyme HT48*

### **Biomarker Discovery (Enhanced Mass Spectrometry Sample Preparation)**

#### **We Believe:**

- there are approx 16,000 MS labs worldwide (8,000 U.S.); approx 50% do protein analysis
- most MS protein analyses require extraction then digestion of proteins prior to processing
- PCT offers greater quality of extraction (more membrane proteins; better reproducibility)
- PCT offers greater quality of digestion (significantly (10x) faster; better reproducibility)

#### **We Further Believe:**

**There are six major MS instrument companies, each with over 2,000 customers,  
for a total of approximately 12,000 - 16,000 MS laboratories worldwide**

- the Barozyme HT48 will help promote strategic partnership discussions with MS firms, will integrate well with current lab automation, and will give MS users an “unfair advantage”
- each Barozyme HT48 could generate ~ \$25,000 in revenue to PBI after distributor discount
- each Barozyme HT48 could generate ~ \$5,200/year (\$8 per strip) to PBI after discount

#### **For Discussion Purposes Only (not to be viewed as guidance)**

**1,400 customers x \$25K/Instrument = \$35M in instrument sales over 3-5 years,  
plus \$8M/year in microwell strip consumable sales**





**Forensics (Enhanced Rape Kit Sample Preparation)**

**We Believe:**

- there is a backlog of ~400,000 untested Rape Kits in the U.S. & ~ 300,000 new rapes/year
- because of the high cost and complexity of rape kit testing, the backlog continues to grow
- a rape kit test takes approximately 2 days to process and costs approximately \$1500
- sperm heads & vaginal cells must be separately extracted from the rape kit swab: takes a day
- to reduce the backlog, we can either hire more testing personnel or increase testing efficiency

**We Further Believe:**

**The enhanced rape kit testing procedure being developed by Dr. Bruce McCord & Team (FIU) has the potential to process up to 10x the # of samples/day of current methods, and thus to significantly reduce the untested rape kit backlog**

- every cell in nature has a pressure point at which the cell will break
- sperm heads and vaginal cells have been shown to efficiently break at different PCT pressures
- we will sell direct to the ~ 150 labs doing rape kit testing
- by selling direct, each sale of a PCT instrument should generate ~ \$40,000 in revenue
- although this procedure has shown great promise in development, much work remains



## Key Investment Highlights

- Pressure Cycling Technology (PCT): Powerful, Enabling, Patented with Significant Advantages Over Competitive Methods
- Proven Technology: ~ 250 Installations in ~150 Marquee Laboratories
- Attractive “Razor/Razorblade” Business Model
- Experienced Management Team and Board of Directors
- Large Sample Preparation Market Opportunity (estimated \$6 Billion)
- On-going Discussions with Large Potential Strategic Partners
- Strong FY 2013, Strong Q1 2014, and Guidance for Continued Revenue Growth Throughout 2014 with Existing Instruments and Consumables, Expanding Distribution Network, New Histology Consumable, and the Just Released HUB880
- Closed \$3.0 Million PIPE in Several Tranches Between Dec 2013 – June 2014; Final Tranche Expected to Close on or Before 9/15/14.
- Barozyme HT48 Release in June 2014 Opens Door for Potential Rapid Growth in 2015 and Beyond...mass spectrometry, rape kit testing, etc.



## Professor Wayne L. Hubbell

- Distinguished Professor of Biochemistry:  
UCLA School of Medicine
- Assoc. Dir.: Jules Stein Eye Institute (UCLA)
- Member, National Academy of Sciences
- Fellow, American Academy of Arts and Sciences
- Member, UCLA Molecular Biology Institute & UCLA Brain Research Institute
- Gold Medal, International EPR Society



**The Hubbell research lab is focused on the relationship between the molecular structure of a protein and the conformational changes that control its function**

“The study of proteins under pressure has great ability to provide new insights into protein function and rational drug design. In my opinion, high pressure will play a central role in the discovery process that lies ahead in the exciting field of protein science, and the PBI equipment will make major contributions to this field.”

**PBI**

## Professor Jennifer Van Eyk

- Professor of Medicine, Cedars-Sinai Med. Ctr.
- Director, Basic Science Research, the Barbara Streisand Women's HC
- Director, Adv Clinical Biosystems Rsh. Institute
- Director, NHLBI Prot Innov Ctr, Heart Failure
- Formerly Professor of Medicine, Johns Hopkins School of Medicine
- Internationally Recognized Leader in the Field of Proteomics



**The Van Eyk research lab is focused on studying the underlying molecular mechanisms of heart disease.**

“Our laboratory undertakes the study of the protein complement, or proteome, of cells, tissues or body fluids to understand the complex regulation and control that change with disease. This allows us to discover novel changes to the proteome that underpin the molecular mechanisms that drive disease. Furthermore, discovery of new potential biomarkers that are altered in plasma during disease onset and development allows us to create new diagnostics and prognostic tests for clinical use.”

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## Mr. David Weild IV

- Founder, Chairman, and CEO, IssuWorks
- CEO, Weild & Co Holdings (Inv Banking Firm)
- Former Vice-Chairman of NASDAQ
- Former Head of Global Equity Transactions, Prudential Securities
- Former President, PrudentialSecurities.com
- Former Head, Capital Markets Group of Grant Thornton LLP
- Known as the “Father of the JOBS Act”, according to Forbes Magazine



### Pressure BioSciences Engages IssuWorks in Strategic Advisory Role

Pressure BioSciences has retained IssuWorks and their management team to review strategic and financing alternatives, including the possible spin-off of vertical market applications into new, stand alone businesses.

