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): May 25, 2018

MATINAS BIOPHARMA HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**001-38022**	**46-3011414**
(State or other jurisdiction of incorporation)	*(Commission File Number)*	*(IRS Employer Identification No.)*

1545 Route 206 South, Suite 302 **Bedminster, New Jersey**	**07921**
(Address of principal executive offices)	*(Zip Code)*

Registrant's telephone number, including area code: **(908) 443-1860**

Not Applicable
(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))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company [X]

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. [X]

Item 8.01 Other Events.

Matinas BioPharma Holdings, Inc. (the "Company") intends to use a slide presentation in connection with investor meetings to starting on Friday, May 25, 2018. The slide presentation is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d)	**Exhibit No.**	**Description.**
	99.1	Slide Presentation, dated May 25, 2018.

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.

MATINAS BIOPHARMA HOLDINGS, INC.

Dated: May 25, 2018

By: */s/ Jerome D. Jabbour*
Name: Jerome D. Jabbour
Title: Chief Executive Officer

Exhibit 99.1


NYSE AMERICAN: MTNB
WWW.MATINASBIOPHARMA.COM
MATINAS
BIOPHARMA
Enabling the Delivery of Life-Changing Medicines
Corporate Presentation
May 2018

Forward – Looking Statement

This presentation contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including those relating to the Company's expectations regarding the terms and size of the proposed offering and the use of proceeds from the proposed offering; the Company's product development, clinical and regulatory timelines, market opportunity, cash flow and other statements that are predictive in nature, that depend upon or refer to future events or conditions. All statements other than statements of historical fact are statements that could be forward-looking statements. Forward-looking statements include words such as "expects," "anticipates," "intends," "plans," "could," "believes," "estimates" and similar expressions. These statements involve known and unknown risks, uncertainties and other factors which may cause actual results to be materially different from any future results expressed or implied by the forward-looking statements. Forward-looking statements are subject to a number of risks and uncertainties, including, but not limited to, our ability to obtain additional capital to meet our liquidity needs on acceptable terms, or at all, including the additional capital which will be necessary to complete the clinical trials of our product candidates; our ability to successfully complete research and further development and commercialization of our product candidates; the uncertainties inherent in clinical testing; the timing, cost and uncertainty of obtaining regulatory approvals; our ability to protect the Company's intellectual property; the loss of any executive officers or key personnel or consultants; competition; changes in the regulatory landscape or the imposition of regulations that affect the Company's products; and the other factors listed under "Risk Factors" in our filings with the SEC, including Forms 10-K, 10-Q and 8-K and the preliminary prospectus for the proposed offering. Investors are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date of this release. Except as may be required by law, the Company does not undertake any obligation to release publicly any revisions to such forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. Matinas BioPharma's product candidates are all in a development stage and are not available for sale or use.

This presentation highlights basic information about us and the proposed offering. Because it is a summary, it does not contain all of the information that you should consider before investing.

We have filed a registration statement on Form S-3 (including a preliminary prospectus supplement) with the SEC for the offering to which this presentation relates. Before you invest, you should read the preliminary prospectus supplement (including the risk factors described therein), registration statement, and other documents incorporated by reference therein for more complete information about us and the proposed offering.

You may access these documents for free by visiting EDGAR on the SEC Web site at http://www.sec.gov. Alternatively, a copy of the preliminary prospectus supplement relating to the offering may be obtained by contacting ThinkEquity, a division of Fordham Financial Management, Inc., 17 State Street, 22nd Floor, New York, New York 10004, telephone: (646) 968-9355 or e-mail: prospectus@think-equity.com.

Offering Summary

Issuer	Matinas BioPharma Holdings, Inc.
Exchange / Symbol	NYSE American / MTNB
Expected Offering Size	$15,000,000
Securities Offered	Series B Convertible Preferred Shares
Use of Proceeds	Development of MAT2203 and general corporate purposes
Placement Agent	ThinkEquity, a division of Fordham Financial Management, Inc.

Series B Convertible Preferred (the "Shares") Summary Terms

Offering Price / Stated Value per Share	$1,000.00
Conversion Price	$0.50 (each Share is convertible into 2,000 shares of Common Stock)
Conversion	• At any time at the option of the holder • Automatic conversion upon the earlier of (i) the first FDA approval of one of the Company's products, (ii) the consent of holders of 50.1% of the Shares, or (iii) the third anniversary of the closing of this offering
Dividends	Common Stock dividends, as a % of the Common Stock into which the Shares are convertible, will be issued to holders of record as of the following anniversaries of the offering: • 10% at the 12 month anniversary • 15% at the 24 month anniversary • 20% at the 36 month anniversary

Strategy Overview

Enabling Delivery of Life-Changing Medicines Using a Proprietary Lipid Nano-Crystal (LNC) Technology Platform

LNC Technology Platform

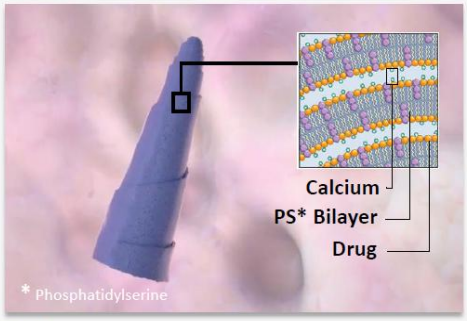
- Highly stable lipid crystals enable safe and natural intracellular delivery of:
  - siRNAs, mRNA, proteins, small molecule pharmaceuticals and the potential for gene-editing (CRISPR-Cas9) molecules
- Validated in multiple preclinical and clinical studies
- Differentiated from other lipid nanoparticles (stability, intracellular delivery, flexible route of administration)
- Building substantial pipeline through strategic collaborations

Lead Internal Development Candidate MAT2203

- Orally-administered amphotericin B, a broad spectrum fungicidal drug
- Demonstrated to be safe and well tolerated in two Phase 2 clinical studies
- Recent meeting with FDA provided clarity on clinical path forward
- Positioning to enter Phase 2 pivotal trial for prevention of invasive fungal infections (IFI) in patients with acute lymphoblastic leukemia (ALL)

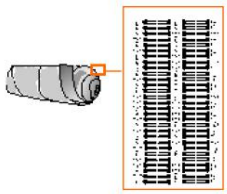
LNC Platform Technology Enables Safe and Targeted Delivery of Potent Medicines

- Highly stable lipid crystal particles
- Sheets roll up and capture drug molecules between the sheet
- Validated in multiple clinical and preclinical studies



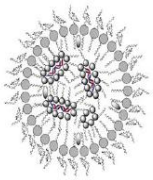
Lipid Nano-Crystal vs. Lipid Nano-Particle

Lipid Nano-Crystal



- Multiple routes of administration
- Rigid, solid multilayered membrane
- Non-aqueous interior
- Resists environmental attack
- Non-toxic

Lipid Nano-Particles



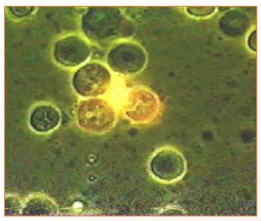
- No oral delivery
- Fluid membrane
- Induce membrane destruction
- Induces immunogenicity and toxicity

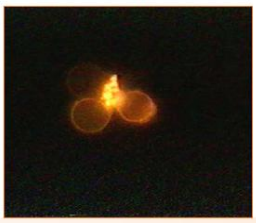
MATINAS BIOPHARMA

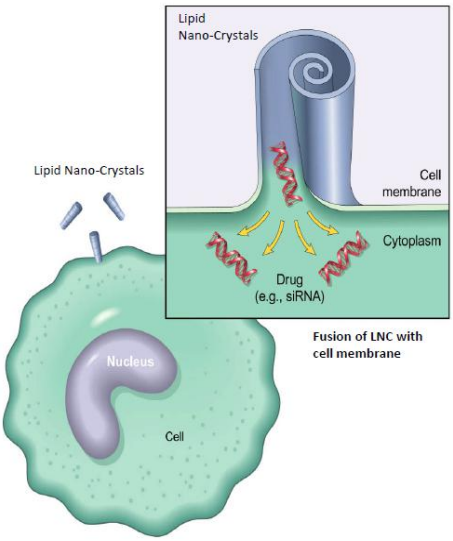
Natural Targeted Intracellular Drug Delivery

- Naturally targeted to cells of the immune system (e.g. macrophage, dendritic cells, neutrophils) or virally infected cells
- Enter cells through non-destructive, natural membrane fusion
- Naturally unwind (low calcium environment) releasing drug payload

Fluorescent Labeled LNC
Incubated with Mouse Spleenocytes







MATINAS BIOPHARMA

MAT2203: Lead Development Product Candidate

Proof of Concept for LNC Technology Platform

MAT2203: C-Amphotericin B (CAmB)

QIDP with Fast Track Status for Treatment of Aspergillus, Invasive Candidiasis and Prevention of IFI

Broadest Spectrum Antifungal Agent

Gold standard of treatment for immunocompromised patients

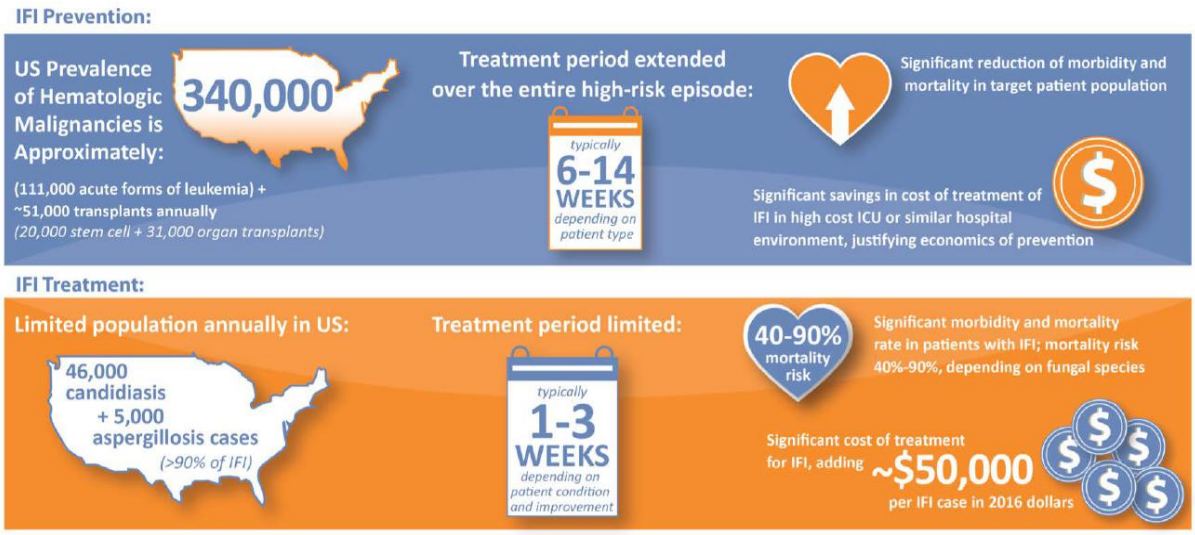
Demonstrated to be Safe and Well Tolerated

No drug-related serious adverse events reported in either Phase 2 clinical study

LNC Platform Technology Benefits

Oral bioavailability, reduction in toxicity and targeted delivery

IFI Prevention Represents a Significant Market Opportunity



NIH and VVC Studies Significantly Strengthen MAT2203 Human Safety and PK Database

Current Database:	Safety	24-hr PK in Serum	Other PK
Single Dose	36 patients	36 patients	none
Multiple Dose	96[1] patients	21 patients	70[2] patients

- NIH Study: Kidney and liver function remained within normal ranges
- Vulvovaginal Candidiasis (VVC) Study: Limited impact on liver and kidney function and remained within normal ranges

MATINAS BIOPHARMA

1: Includes four documented NIH patients, two of whom have now been dosed for more than a year
2: Serum Trough Amphotericin B Levels (observations indicate relative consistency across populations)

Efficacy Results – NIH and VVC Phase 2 Studies

NIH Study

- 100% (4 out of 4) patients met the primary endpoint in achieving ≥ 50% clinical response
- Study met predetermined endpoint for success, which was 3/16 patients demonstrating clinical response
- All patients reported improved quality of life
- There have been no signs of nephrotoxicity, hypokalemia or hepatoxicity after oral dosing:
  - Patient 1 – 467 days (800 mg/day)
  - Patient 2 – 476 days (400 mg/day)
  - Patient 3 – 189 days (800 mg/day)
  - Patient 4 – 91 days (800 mg/day)
- All patients have elected to enroll in the long-term extension study

VVC Study

- In the composite clinical cure score of signs and symptoms at Day 12, MAT2203 demonstrated an 81% improvement in clinical symptoms at 200 mg/day, 80% improvement at 400 mg/day, compared to 94% improvement in clinical symptoms for the patients on fluconazole

Recent Meeting with FDA Provided Clarity on Clinical Development Path Forward

- FDA meeting held in January 2018 with purpose of gaining FDA perspectives on data from studies conducted and on future development of MAT2203
- FDA acknowledged efficacy was demonstrated in animal studies
- FDA acknowledged no evident safety or toxicity concerns in studies conducted to date
- FDA acknowledged significant unmet medical need for patients with acute lymphoblastic leukemia (ALL) at-risk for development of invasive fungal infections – no currently approved therapies
- Following successful FDA meeting, focus on combination of formulation and dose optimization and streamlined (adaptive design) development program designed to mitigate overall risk, cost and timeline for approval

MAT2203 Formulation Optimization

- Current formulation is an oral suspension
- Recently completed formulation optimization program with a goal to reduce product volume and improve taste
  - Reformulation through concentration (improved from 5 mg/mL to 27.5 mg/mL)
  - Taste-masked, sweetened, flavored and colored to appeal to patient and improve compliance
- Currently scaling up formulation to supply MAT2203 for dose optimization in advance of Phase 2 clinical trial

MAT2203 Dose Optimization Through Animal Studies & Pharmacokinetic/Pharmacodynamic (PK/PD) Modeling

Stage 1

Robust Studies in Neutropenic Animals

- Designed to provide data for input into the PK/PD Model

Stage 2

PK/PD Modeling with Existing Data

- Will run concurrently with Stage 1
- Population pharmacokinetic model development incorporating human PK data generated to date

Stage 3

Dose Selection Simulations

- Will run following completion of Stage 1 and Stage 2, incorporating data from both human and neutropenic animal studies
- Designed to select optimal dose for adaptive design pivotal trial

Single Phase 2 Pivotal - Adaptive Design Study

Seeking Approval for Limited Use Indication for Prevention of IFI in ALL Patients

Stage 1:
PK/PD and Safety

- ~30 Patients with either AML or ALL
- Open-label

Stage 2:
PK/PD, Efficacy and Safety in ALL Patients

- Final number of patients for Stage 2 to be determined
- Designed to demonstrate statistical superiority over placebo
- Data Safety Monitoring Board to review blinded data every ~30-60 patients for safety & efficacy
  - Provides continuous evaluation of safety
  - Could determine if differences in efficacy warrants ending study early due to statistical superiority of MAT2203
  - Provides flexibility in sizing of study to meet statistical endpoint

MAT2203 Clinical Development Plan

Study	H1 2018	H2 2018	H1 2019	H2 2019	2020	2021	2022
Dose Optimization							
Pharmacokinetic/Pharmacodynamic (PK/PD) Modeling							
Long Term Tox (90 Rat & Dog) and Food Effect Studies							
FDA Meeting							
Initiate Phase 2 Pivotal - Adaptive Design Study							
Phase 2 Pivotal Study Duration							NDA

Enabling the Promise of Gene Therapy/Editing

The Challenge of Delivery in Gene Therapy/Editing

Genetic drugs such as small interfering RNA (siRNA), messenger RNA (mRNA) or plasmid DNA provide potential gene therapies to treat most diseases by silencing pathological genes, expressing therapeutic proteins, or through gene-editing applications. In order for genetic drugs to be used clinically, however, sophisticated delivery systems are required.

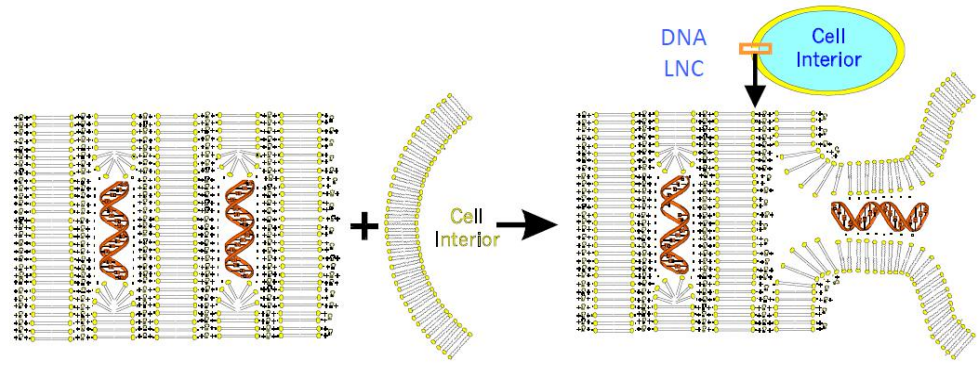
The central problem preventing the widespread implementation of gene therapies based on RNA and DNA polymers is delivery

- The complexity of the problem is enormous
- Naked RNA or DNA molecules are rapidly degraded in biological fluids
- Do not accumulate in target tissues following systemic administration
- Cannot penetrate into target cells even if they get to the target tissue
- Further, the immune system is designed to recognize and destroy vectors containing genetic information

The LNC Platform Technology: A Demonstrated Gene Therapy Solution

- **Encapsulation of genetic information**
  - LNCs protect associated genetic information inside stable, solid crystal
- **Attachment and delivery into target cells**
  - Natural membrane fusion intermediates due to inherent physical/chemical properties
  - Introduce contents into cytoplasm without cell membrane destruction and cell death typically seen with other lipid nanoparticle delivery
- **Facilitating gene expression**
  - Capacity to ensure integrity of DNA-protein complexes suggests substantial advantage in gene delivery
  - Demonstrated ability to encapsulate DNA-protein complexes yields enhanced biological activity
- **Route of administration flexibility and enhanced safety**
  - Ability to create oral, parenteral, intranasal and other formulations provides clear competitive advantage
  - Non-viral vector enhances safety

How LNCs Deliver RNA and DNA Polymers



The outer layer of the LNC interacts with the target cell membrane

Via a natural, non-destructive membrane fusion process, involving calcium and negatively charged phospholipids, the LNC membrane fuses with the target cell membrane delivering the nucleic acid into the interior of the cell

Preclinical Data Support Formulation and Delivery of RNA and DNA Polymers

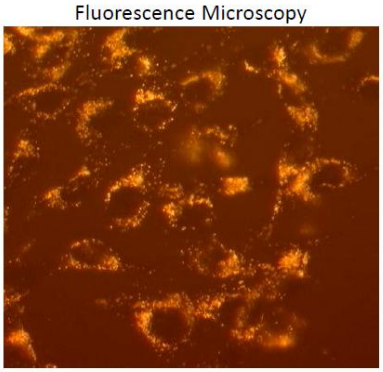
- Various strategies have been developed to prepare stable formulations of siRNA, mRNA and DNA plasmids
- Greater than 90% efficiency and demonstrated long shelf life stability (including at room temperature)
- Formulations demonstrated delivery of siRNA and DNA plasmids to cells *in vitro* at high efficiency
- siRNA formulations have shown activity *in vivo* in mouse model of influenza infection
- LNCs demonstrated safe, non-toxic and non-immunogenic
- DNA plasmids have shown activity *in vivo* in mouse models of gene expression and activation of the immune response
- In animal models, formulations of oligonucleotides demonstrate efficacy in the absence of toxicity
- Delivery strategy for plasma-based CRISPR-Cas9 system is similar to plasmid-based gene therapy indicating significant potential in solving delivery challenges for CRISPR-Cas9 in gene editing field

siRNA LNC Delivery

Intracellular Localization of siRNA in RISC Complexes

Light Microscopy

Fluorescence Microscopy



- LNCs deliver siRNA at high efficiency to every cell in the culture
- Fluorescent siRNA localizes regions in the cytoplasm next to the nuclear membrane analogous to RISC complexes

Pipeline Through Strategic Collaboration– Formulation Partner of Choice

LNC Platform Benefits

- Demonstrated oral, parenteral and topical delivery
- Demonstrated intracellular delivery of drug
- Demonstrated reduction of toxicity
- Potential to increase efficacy
- Allows for room temperature storage
- Inexpensive cost of goods and manufacturing

Broad Applicability

Unique delivery platform that can formulate and stabilize a variety of molecules:

- siRNAs
- mRNA
- Proteins
- DNA plasmids
- Small molecule pharmaceuticals
- Antisense

Manufacturing Capabilities

- 14,000+ sq. ft. GLP/GMP product development and manufacturing facility located in former Sanofi R&D building in Bridgewater, NJ
- Includes GMP scale-up and manufacturing suites
- ISO-8 compliant
- Highly scalable and reproducible manufacturing process from 1 mL to 100 liters+
- Protocols developed to control and stabilize particle size

Management Team and Board of Directors

Strong Development and Commercialization Track Record

Management

Jerome D. Jabbour Chief Executive Officer, Director	Reliant Pharmaceuticals, Inc. / Wockhardt
Raphael J. Mannino, PhD Chief Scientific Officer	Rutgers New Jersey Medical School / biodelivery sciences
Dominick DiPaolo SVP, Quality and Regulatory Compliance	Tris Pharma / Pfizer
Gary Gaglione, CPA VP, Finance, Acting-CFO	Reliant Pharmaceuticals, Inc. / Roche

Board of Directors

Herbert Conrad Chairman of the Board	Pharmasset / Roche
Eric J. Ende, MBA, MD Director	genzyme / Merrill Lynch
Matthew A. Wikler, MD, MBA FIDSA Director	The Medicines Company / FDA
Adam Stern Director	Sternaegis Ventures
James S. Scibetta Director	Maverick Therapeutics / Pacira Pharmaceuticals, Inc.
Jerome D. Jabbour Chief Executive Officer, Director	Reliant Pharmaceuticals, Inc. / Wockhardt

Prominent Clinical Advisors

J. Carl Craft, MD - Chair

- Former Chief Scientific Officer for Medicines for Malaria Venture (MMV)
- Former Venture Head at Abbott Laboratories Anti-Infective Development Group

Prof. Oliver Cornely, MD, FACP, FIDSA

- Head of Translational Platform, Principal Investigator, Clinical Trials Center Cologne
- President of the European Confederation of Medical Mycology

Dimitrios P. Kontoyiannis, M.D., M.S., Sc.D., PhD (Hon),FACP, FIDSA, FECMM

- The Texas 4000 Distinguished Endowed Professor For Cancer Research, Department of Infectious Diseases, Division of Internal Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX
- Frances King Black Endowed Professor, Department of Infectious Diseases, Division of Internal Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX
- Deputy Head Research, Division of Internal Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX

Peter G. Pappas, MD, FACP

- Professor of Medicine in the Division of Infectious Diseases and Tinsley Harrison Clinical Scholar at the University of Alabama in Birmingham
- Principal Investigator for the Mycoses Study Group

David S. Perlin, PhD

- Internationally renowned expert in infectious disease, with primary expertise in fungal infections and mechanisms of antifungal drug resistance
- Executive Director of the Public Health Research Institute (PHRI)
- Professor of Microbiology, Biochemistry and Molecular Genetics at New Jersey Medical School

Capitalization Table*

Common Shares	93,981,562
Series A Preferred Stock (as converted)**	14,728,858
Options ($1.33 WAEP)	11,613,820
Warrants ($0.70 WAEP)	5,957,831

* Pre-offering and excluding: the Series B Convertible Preferred Shares and Common Shares into which the Shares convert; 3,000,000 Common Shares issuable to Aquarius upon certain milestones; Placement Agent warrants issuable in connection with the offering

** Holders of Series A Preferred Stock are entitled to receive cumulative dividends at the rate per share of 8% per annum, payable in shares of our Common Stock and certain Royalty Payment Rights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