



February 2024

ResolutionRx

***DEVELOPING A
REPURPOSED DRUG FOR
OBSTRUCTIVE SLEEP
APNOEA***



- Company Profile
- About Pharmaceutical Cannabinoids
- Dronabinol
- Obstructive Sleep Apnoea - A Worldwide Epidemic
- Foundation of ResolutionRx
- ResolutionRx Business Plan



NON-SOLICITATION AND FORWARD-LOOKING STATEMENT

Not a Securities Offering or Solicitation

This communication shall not constitute an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sales of securities in any jurisdiction in which such offer, solicitation or sale of securities would be unlawful before registration or qualification under the laws of such jurisdiction.

Cautionary Note Regarding Forward-Looking Statements

This presentation contains certain forward-looking statements about both ResolutionRx Ltd and RespireRx Pharmaceuticals Inc. and its subsidiaries and business units (collectively, the “Company”) within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”) and Section 21E of the US Securities Exchange Act of 1934, as amended (the “Exchange Act”), and other similar laws, rules and regulations of other jurisdictions and the Company intends that such forward-looking statements be subject to the safe harbors created thereby. These might include statements regarding the Company’s future plans, targets, estimates, assumptions, financial position, business strategy and other plans and objectives for future operations, and assumptions and predictions about research and development efforts, including, but not limited to, preclinical and clinical research design, execution, timing, costs and results, future product demand, supply, manufacturing, costs, marketing and pricing factors.

In some cases, forward-looking statements may be identified by words including “assumes,” “could,” “ongoing,” “potential,” “predicts,” “projects,” “should,” “will,” “would,” “anticipates,” “believes,” “intends,” “estimates,” “expects,” “plans,” “contemplates,” “targets,” “continues,” “budgets,” “may,” or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words, and such statements may include, but are not limited to, statements regarding (i) future research plans, expenditures and results, (ii) potential collaborative arrangements, (iii) the potential utility of the Company’s product candidates, (iv) reorganization plans, and (v) the need for, and availability of, additional financing. Forward-looking statements are based on information available at the time the statements are made and involve known and unknown risks, uncertainties and other factors that may cause our results, levels of activity, performance or achievements to be materially different from the information expressed or implied by the forward-looking statements in this presentation.

These factors include but are not limited to, regulatory policies or changes thereto, available cash, research and development results, issuance of patents, competition from other similar businesses, interest of third parties in collaborations with us, and market and general economic factors, and other risk factors disclosed in “Item 1A. Risk Factors” in RespireRx Pharmaceutical Inc.’s (“RespireRx”) Annual Report on Form 10-K for the fiscal year ended December 31, 2022, as filed with the SEC on April 17, 2023 (the “2022 Form 10-K”).

NON-SOLICITATION AND FORWARD-LOOKING STATEMENT

(continued)

You should read these risk factors and the other cautionary statements made in the RespireRx filings and the Company's other filings as being applicable to all related forward-looking statements wherever they appear in this presentation. We cannot assure you that the forward-looking statements in this presentation will prove to be accurate and therefore current and prospective investors, as well as current and potential collaborators and other current and potential stakeholders, are encouraged not to place undue reliance on forward-looking statements. You should read this presentation completely. Other than as required by law, we undertake no obligation to update or revise these forward-looking statements, even though our situation may change in the future.

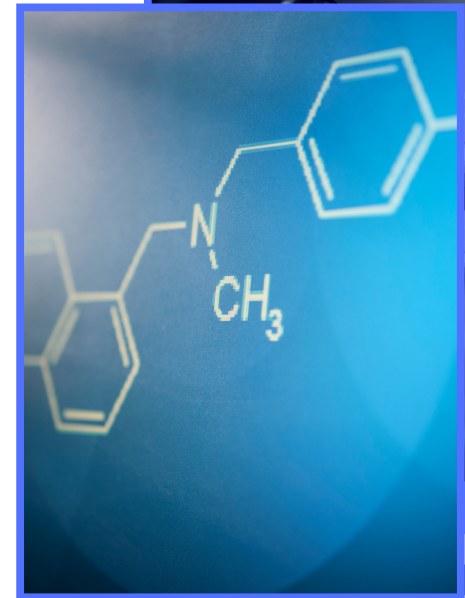
We caution current and prospective investors, as well as current and potential collaborators and other current and potential stakeholders, not to place undue reliance on any forward-looking statement that speaks only as of the date made and to recognize that forward-looking statements are predictions of future results, which may not occur as anticipated. Actual results could differ materially from those anticipated in the forward-looking statements and from historical results, due to the risks and uncertainties described in the 2022 Form 10-K, in RespireRx's quarterly reports on Form 10-Q, in RespireRx's Current Reports on Form 8-K, and other reports that we file with or furnish to the SEC, in other jurisdictions and in this presentation, as well as others that we may consider immaterial or do not anticipate at this time. These forward-looking statements are based on assumptions regarding the Company's business and technology, which involve judgments with respect to, among other things, future scientific, economic, regulatory and competitive conditions, collaborations with third parties, and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the Company's control. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we do not know whether our expectations will prove correct. Our expectations reflected in our forward-looking statements can be affected by inaccurate assumptions that we might make or by known or unknown risks and uncertainties, including those described in the 2022 Form 10-K, in RespireRx's quarterly reports on Form 10-Q, in RespireRx's Current Reports on Form 8-K, and other reports that we file with or furnish to the SEC, in other jurisdictions and in this presentation. These risks and uncertainties are not exclusive and further information concerning us and our business, including factors that potentially could materially affect our financial results or condition, may emerge from time to time. For more information about the risks and uncertainties the Company faces, see "Item 1A. Risk Factors" in RespireRx's 2022 Form 10-K. Forward-looking statements speak only as of the date they are made. The Company does not undertake and specifically declines any obligation to update any forward-looking statements or to publicly announce the results of any revisions to any statements to reflect new information or future events or developments. We advise current and prospective investors, as well as current and potential collaborators and other current and potential stakeholders, to consult any further disclosures we may make on related subjects in our annual reports on Form 10-K and other reports that RespireRx files with or furnish to the SEC including but not limited to RespireRx's most recent Form 10-Q as of September 30, 2023 filed with the SEC on November 17, 2023.

Company Profile

ResolutionRx, an unlisted public Australian company, is focused on repurposing, developing and commercialising proprietary pharmaceutical product candidates, our first candidate being the repurposing of a pharmaceutical cannabinoid.

ResolutionRx was created by RespireRx Pharmaceuticals Inc. (US OTC: RSPI) (RespireRx), which has contributed its cannabinoid drug development program to ResolutionRx.

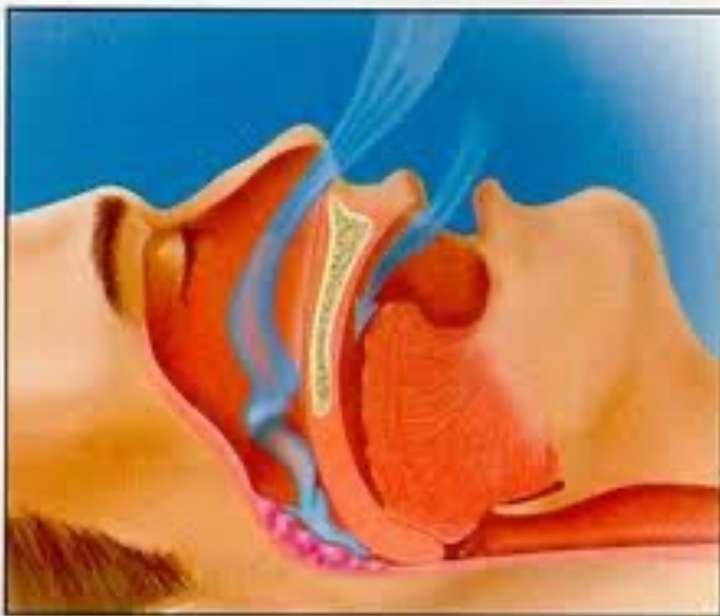
ResolutionRx is continuing the research and development (R&D) associated with that program, initially for the development of a new formulation of dronabinol for use as a treatment for obstructive sleep apnoea ("OSA").





OBSTRUCTIVE SLEEP APNOEA (OSA)

A WORLDWIDE PROBLEM



During OSA airflow is blocked

- A sleep-related breathing disorder that occurs when throat muscles intermittently relax and block airway during sleep
- With OSA a person typically stops breathing 5 – 50 times per hour during sleep
- OSA has reached near-pandemic levels with an estimated global incidence of approximately 1 billion people and more than 90 million people in the US, Australia, Germany and the UK alone*.
- The consequences of undiagnosed and untreated OSA are medically serious and economically costly.
- Co-morbidities include cardiovascular disorders, type II diabetes and even early mortality.
- In the US alone, the annual estimated economic burden is approximately \$162 (US) billion

SLEEP APNEOA IS NOT MERELY SNORING

* Source: Lancet Respiratory Medicine - 2019 Aug 7(8): 687-698 Benjafeld, A et al

THERE ARE NO DRUG THERAPIES FOR OSA

C-PAP IS THE STANDARD TREATMENT FOR OSA

○ ○ ○ ○

Low Compliance Rate Reduces C-PAP Effectiveness



IS THIS YOU ?

- 30% of patients prescribed CPAP never initiate treatment
- Over 50% of patients stop using CPAP in the first year
- Dronabinol for patients who cannot or will not tolerate CPAP

WHAT ARE PHARMACEUTICAL CANNABINOIDS?

Cannabinoids are pharmacologically active substances found in the cannabis (marijuana) plant.

Whether extracted from plants or synthetically manufactured, medical claims and uses of cannabinoids must be approved by US FDA and other international regulatory authorities.

Scientific study has focused on the two major cannabinoids, $\Delta 9$ -tetrahydrocannabinol (THC) and cannabidiol (CBD) and led to several commercial products approved by regulatory authorities.

The commercialisation of these pharmaceutical cannabinoids has opened the door to a greatly expanding market sector





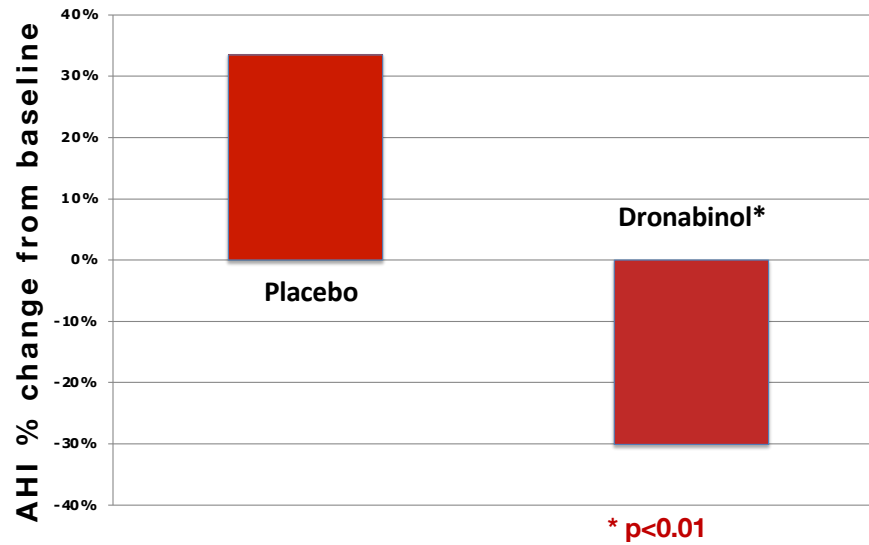
DRONABINOL: A BREAKTHROUGH TREATMENT FOR OSA

Dronabinol Overview

- Dronabinol is an example of our repurposing strategy to reduce risk, cost and create efficiencies in R&D
- Dronabinol is a synthetic form of THC, a psychoactive molecule in cannabis
- It was the first pharmaceutical cannabinoid approved by US FDA in 1985
- Prescribed and sold in US for the treatment of anorexia in AIDS patients and nausea and vomiting in cancer patients undergoing chemotherapy.

DRONABINOL: A BREAKTHROUGH TREATMENT FOR OSA

Phase 2A Clinical Study



- Double Blind Placebo Controlled
- 2.5, 5 & 10 mg before bed
- 3-Week Dose-ascending Study
- n = 17



THE PACE CLINICAL TRIAL

- Phase 2B Randomized, Placebo-controlled, Parallel Groups, Multi-site Trial in 73 Patients with Moderate to Severe OSA
- Subjects Administered Either Placebo, 2.5 mg or 10 mg Dronabinol 60 minutes before bedtime
- Primary Outcome Measure – Apnea-Hypopnea Index (AHI)
- Secondary Outcome Measures

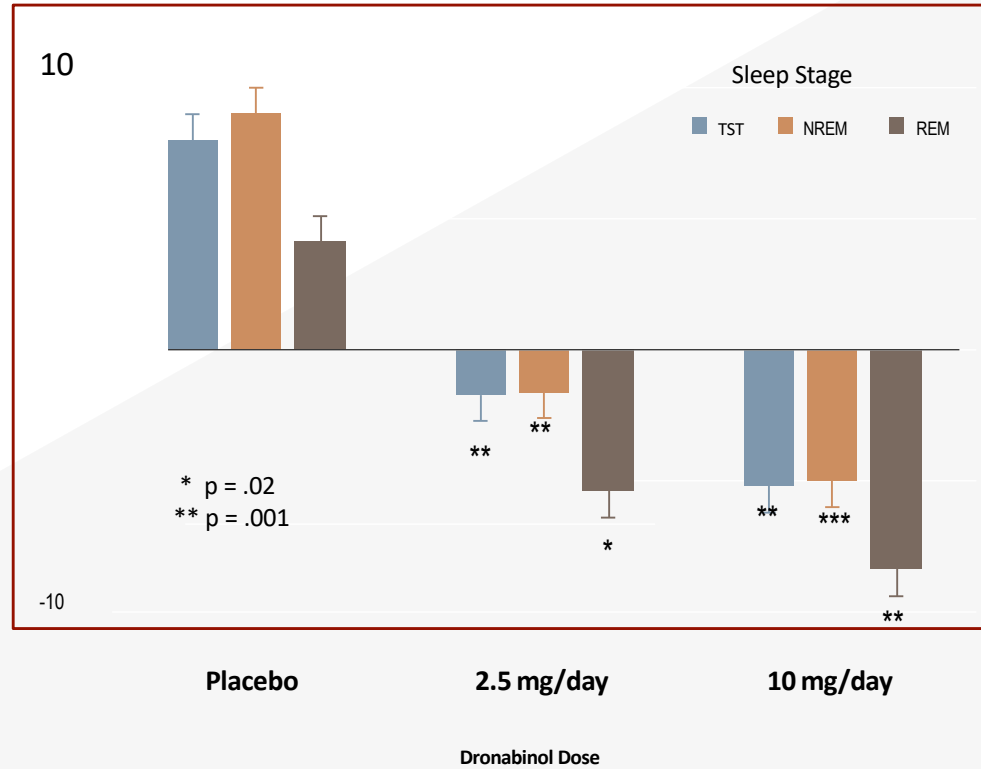




RESULTS OF 6-WEEK TREATMENT:

**Dronabinol Reduces
AHI**

Change in Apnoea/Hypopnea Index



THE PHASE 2B PACE TRIAL IN OSA

Final Overall Results

Statistically significant improvement in Primary Outcome Measures

Apnea-Hypopnea Index (AHI)

2.5 and 10 mg

ESS Sleepiness Scale

10 mg

Overall Patient Satisfaction

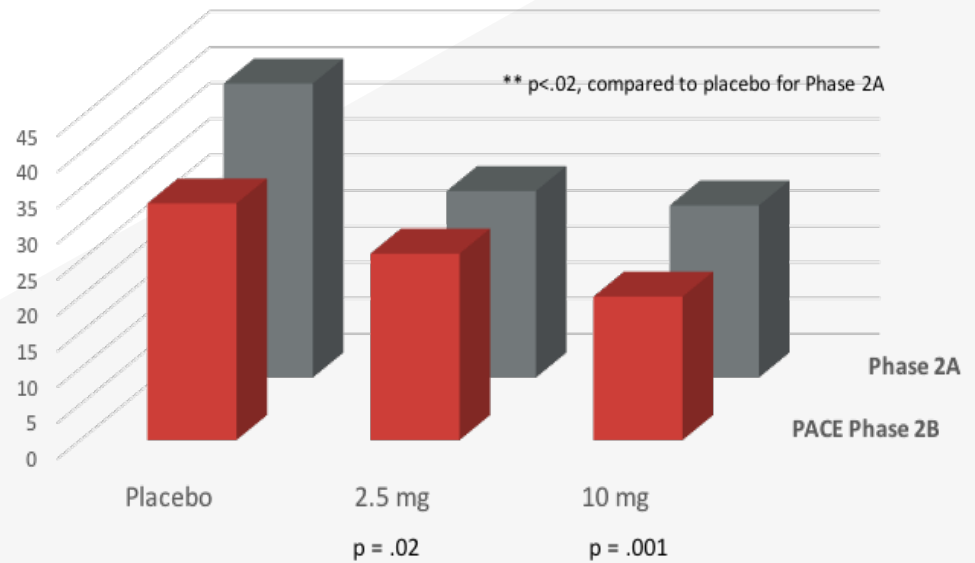
10 mg



THE PACE TRIAL REPLICATES THE PHASE 2A STUDY

Two Phase 2 Trials Have Shown that Dronabinol Treatment Results in a Statistically Significant, Dose Related Improvement in AHI, a Primary Endpoint for US FDA Approval

Apnea-Hypopnea Index (AHI)

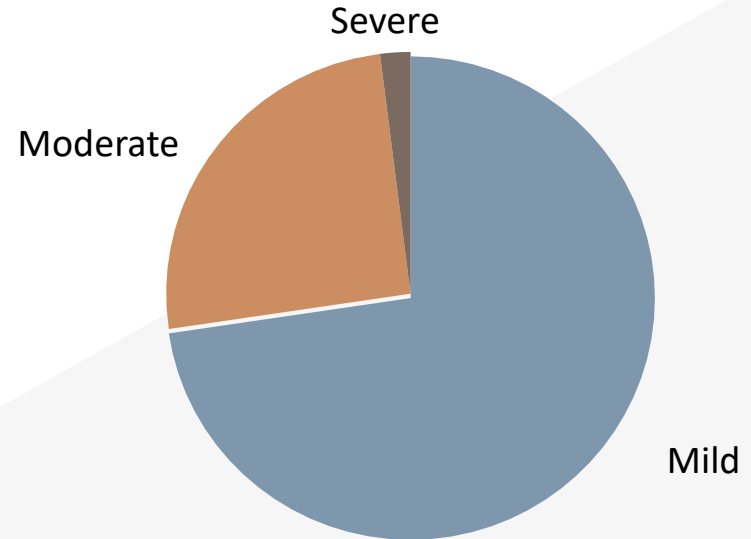


* Double blind, placebo controlled dose-ascending study in patients with OSA, n=19



DRONABINOL HAS AN EXCELLENT SAFETY PROFILE


- Adverse Events (AEs) in placebo and dronabinol groups did not differ
- Great Majority of AEs were mild to moderate
- Average Number of AEs = 4.1 ± 4.0





NEED FOR NEW DRONABINOL FORMULATIONS

Present Commercial Dronabinol Gel-cap Formulations

- Poor and erratic absorption due to insolubility, with some patients achieving very high levels and others achieving very low levels.
 - Rapid and extensive first-pass liver metabolism, resulting in low blood levels and a relatively short half-life (approximately 2 - 3 hours) which is not optimally suited for therapeutic indications requiring blood levels to be sustained for 6 hours or longer.
 - Undesirable side effects from high dosage strength required to achieve sustained, therapeutic blood levels
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NEW LIPID-BASED CANNABINOID FORMULATIONS

- Soluble with appropriate dissolution
- Room temperature stability
- Resistant to disturbance by stomach acids
- Particle size in the 50 - 150 nM range
- Lymphatic absorption to bypass liver metabolism
- Encapsulation efficiency
- Amenable to commercial scale production



FOUNDATIONS OF RESOLUTIONRX

Development Strategy for Pharmaceutical Cannabinoids

Repurposing known drugs and drug candidates to reduce risk, cost and achieve R&D efficiencies. In our case, this refers to the development of cannabinoids according to Australian TGA and US FDA and other foreign accepted regulatory pathways to market and sell a new drug.

Clinical Validation

Two Phase 2 clinical trials have been completed demonstrating the ability of dronabinol to significantly reduce the symptoms and quantitative measures of obstructive sleep apnoea (“OSA”), a sleep-related breathing disorder that afflicts an estimated 90 million people in the US, Australia, Germany and UK combined.

Intellectual Property

Issued and pending patents claiming cannabinoid compositions and methods for treating cannabinoid-sensitive disorders, including sleep apnoea and other conditions, as well as novel dosage and controlled release compositions applicable to cannabinoids and other drug candidates.

Defined Regulatory Route to Commercialization

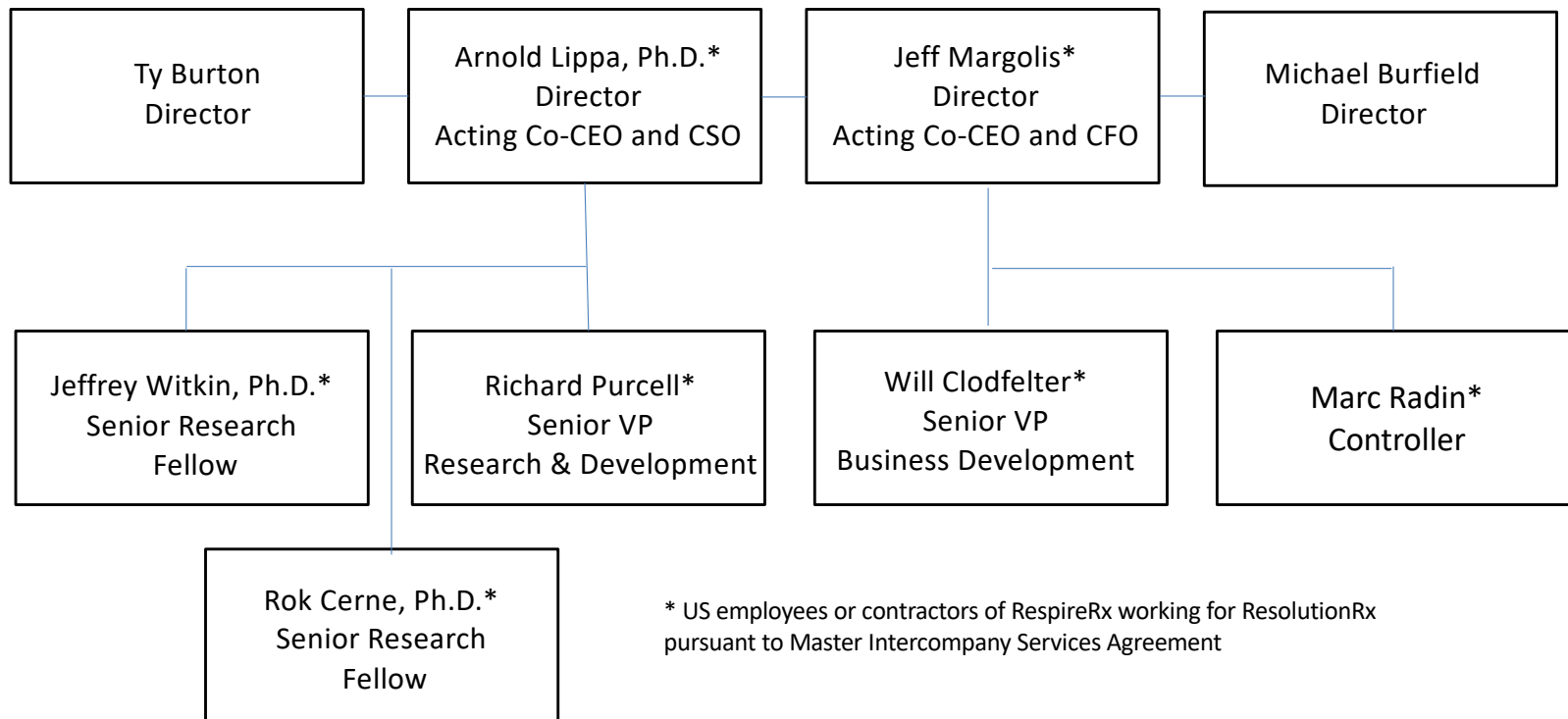
505(b)(2) NDA in US and similar filings in other countries creates expedited path to market by allowing publicly available safety data.

Business Plan

Business plan, financial projections and independent valuation in place

Corporate Structure

Board of Directors



* US employees or contractors of RespireRx working for ResolutionRx pursuant to Master Intercompany Services Agreement


Partners and Service Providers

- 1. iNGENu CRO Pty Ltd** - ResolutionRx has entered into a services agreement with iNGENu CRO Pty Ltd, an Australian contract research organization focused on cannabinoid research, to provide R&D services, including regulatory, compliance, as well as the conduct of clinical studies. www.iGENUCRO.com.au
- 2. Ab Initio Pharma Pty Ltd** - ResolutionRx has entered into a services agreement with Ab Initio, an Australian drug ingredient manufacturer and provider of other related services for the manufacture, formulation, testing and supply of therapeutic drugs based on our lipid nanoparticle technology licensed from RespireRx. <https://ab-initio-pharma.com/>
- 3. RespireRx Pharmaceuticals Inc.** - ResolutionRx has entered into a services agreement for RespireRx, ResolutionRx's, parent company, to provide management, R&D and general and administrative services in support of business operations and research and development activities. www.RespireRx.com
- 4. RDI Partners Pty Ltd** - RDI Partners will provide accounting services and consulting services with regard to R&D Tax Incentives.
- 5. DLA Piper** - DLA Piper is a global law firm operating through various separate and distinct legal entities with offices in Brisbane, Melbourne, Perth, and Sydney. DLA Piper has substantial capabilities in healthcare, finance, intellectual property, life sciences and several other areas of interest to ResolutionRx. <https://www.dlapiper.com/en/locations/australia>
- 6. Perks** – Perks is our independent auditor and is one of the largest privately-owned accounting firms in Australia, with independent auditing, tax and accounting services. <https://www.perks.com.au/>



RESOLUTIONRX

FINANCING STATUS

- ResolutionRx is eligible to participate in the Australian R&D tax credit, a refund, in our case, expected to be 43.5% of qualified research and development expenditures.
 - Radium Capital has agreed to provide a debt facility to finance 80% of ResolutionRx's Australian research and development tax incentives.
 - Based on an independent pre-money net asset value of A\$33.75M, ResolutionRx has mandated PrimaryMarkets Pty Limited as its non-exclusive advisor to raise A\$18M through the sale of Series A Preference Shares at a per share price of A\$1.35.
 - ResolutionRx has entered into a binding Letter of Intent with Cantheon Capital for an intended investment of US\$3,125,000 in the Series A Preference Shares which is 25% of the clinical trial research and development budget of the cannabinoid program.
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