



Verona Pharma



Breathtaking science

Developing respiratory drugs to improve health and quality of life



Stifel Healthcare Conference, November 2018

NASDAQ VRNA
www.veronapharma.com



Forward-Looking Statements

This presentation contains “forward-looking” statements that are based on the beliefs and assumptions and on information currently available to management of Verona Pharma plc (together with its consolidated subsidiaries, the “Company”). All statements other than statements of historical fact contained in this presentation are forward-looking statements. Forward-looking statements include information concerning the initiation, timing, progress and results of clinical trials of the Company’s product candidate, the timing or likelihood of regulatory filings and approvals for any of its product candidates, and estimates regarding the Company’s expenses, future revenues and future capital requirements. In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential” or “continue” or the negative of these terms or other comparable terminology.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the Company’s actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These risks, uncertainties and other factors include those under “Risk Factors” in the Company’s annual report on Form 20-F filed with the Securities and Exchange Commission (the “SEC”) on February 27, 2018, and in its other reports filed with the SEC. Forward-looking statements represent the Company’s beliefs and assumptions only as of the date of this presentation. Although the Company believes that the expectations reflected in the forward-looking statements are reasonable, it cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, the Company assumes no obligation to publicly update any forward-looking statements for any reason after the date of this presentation, or to conform any of the forward-looking statements to actual results or to changes in its expectations.

This presentation also contains estimates, projections and other information concerning the Company’s business and the markets for the Company’s product candidate, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Information that is based on estimates, forecasts, projections, market research, or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, the Company obtained this industry, business, market and other data from reports, research surveys, clinical trials studies and similar data prepared by market research firms and other third parties, from industry, medical and general publications, and from government data and similar sources.



Verona Pharma



Clinical stage biopharma focused on developing & commercializing **innovative therapeutics** for treatment of **respiratory diseases** with significant **unmet need**

Inhaled dual inhibitor of
enzymes PDE₃ and PDE₄

RPL554

Bronchodilator + anti-
inflammatory agent in single
compound

- Developing nebulized RPL554 for COPD
 - Demonstrated efficacy as **add-on to single bronchodilator**
 - Phase 2 underway to assess efficacy as **add-on to dual bronchodilators (w/wo ICS)**
 - On track to commence **Phase 3** following end of Phase 2 meeting
- Advancing DPI and MDI formulations for COPD into clinic
- Opportunities in other respiratory indications: Cystic Fibrosis , Asthma

COPD: Significant Unmet Medical



Verona Pharma

Third leading cause of death in US Consequences of severe exacerbations

- 2-year mortality rate for severe COPD: ~50%¹

24 million US patients with COPD

- ~6 million on maintenance treatment
 - Many continue with daily COPD symptoms



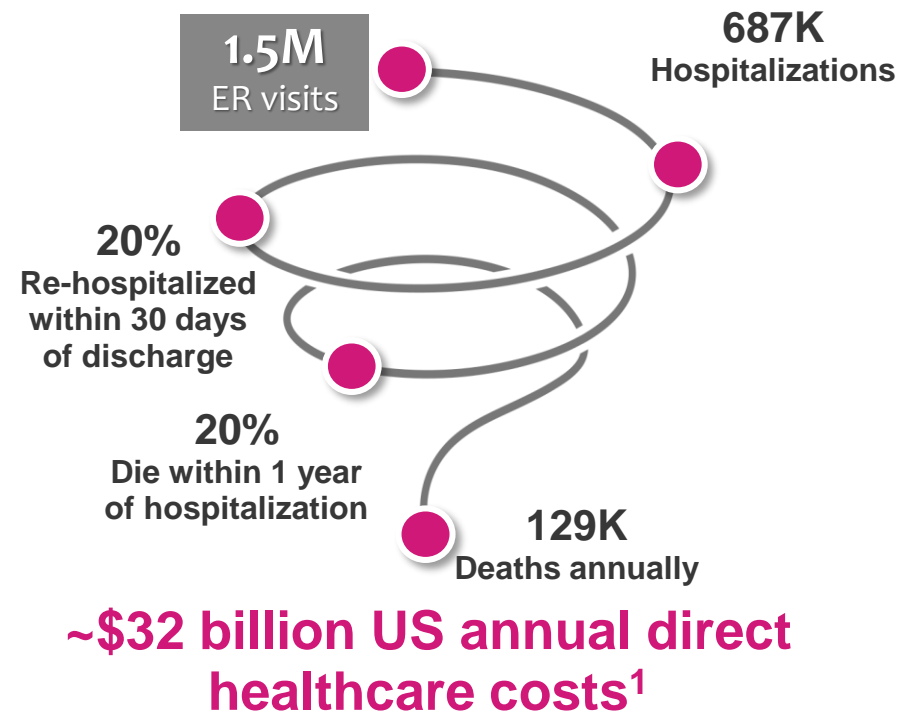
Unmet Need For New Treatments: Bronchodilator + Anti-inflammatory

- Add on to current therapies
- Improve lung function
- Reduce breathlessness
- Improve symptoms
- Prevent exacerbations

'These symptoms have a huge impact on our patients lives. They become more limited in their activities and they have increasing shortness of breath '

– US COPD KOL

Verona Pharma Investor R&D Day, NYC, Oct. 12, 2018



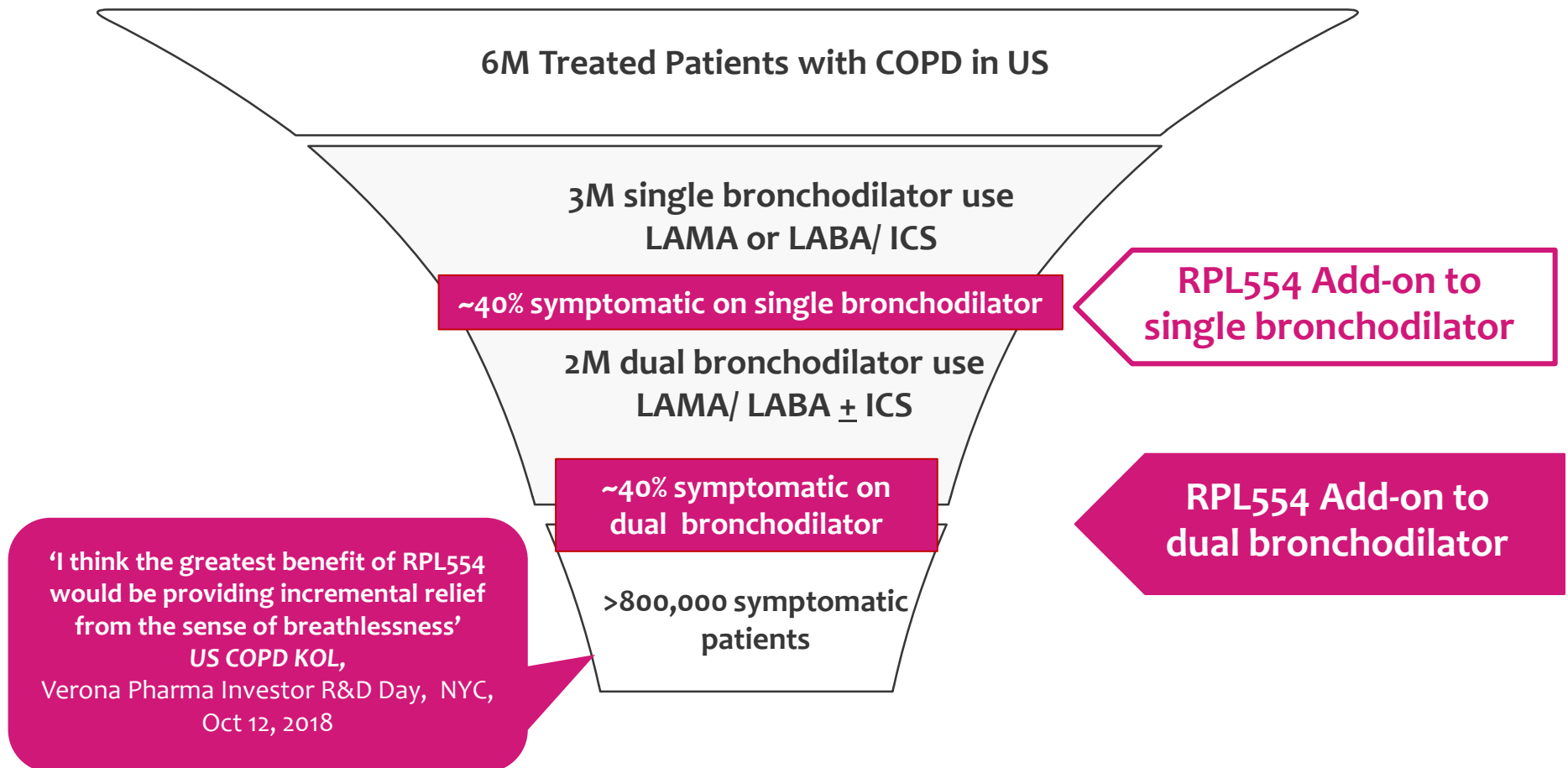
¹ Goodridge, D, RN, PhD, "COPD as Life-Limiting Illness," Topics in Advanced Nursing eJournal, 2006;6(4)
Note: U.S. only data

RPL554: Uniquely Placed as Bronchodilator and Anti-inflammatory with Novel Mode of Action



Verona Pharma

Large numbers of uncontrolled and symptomatic COPD patients



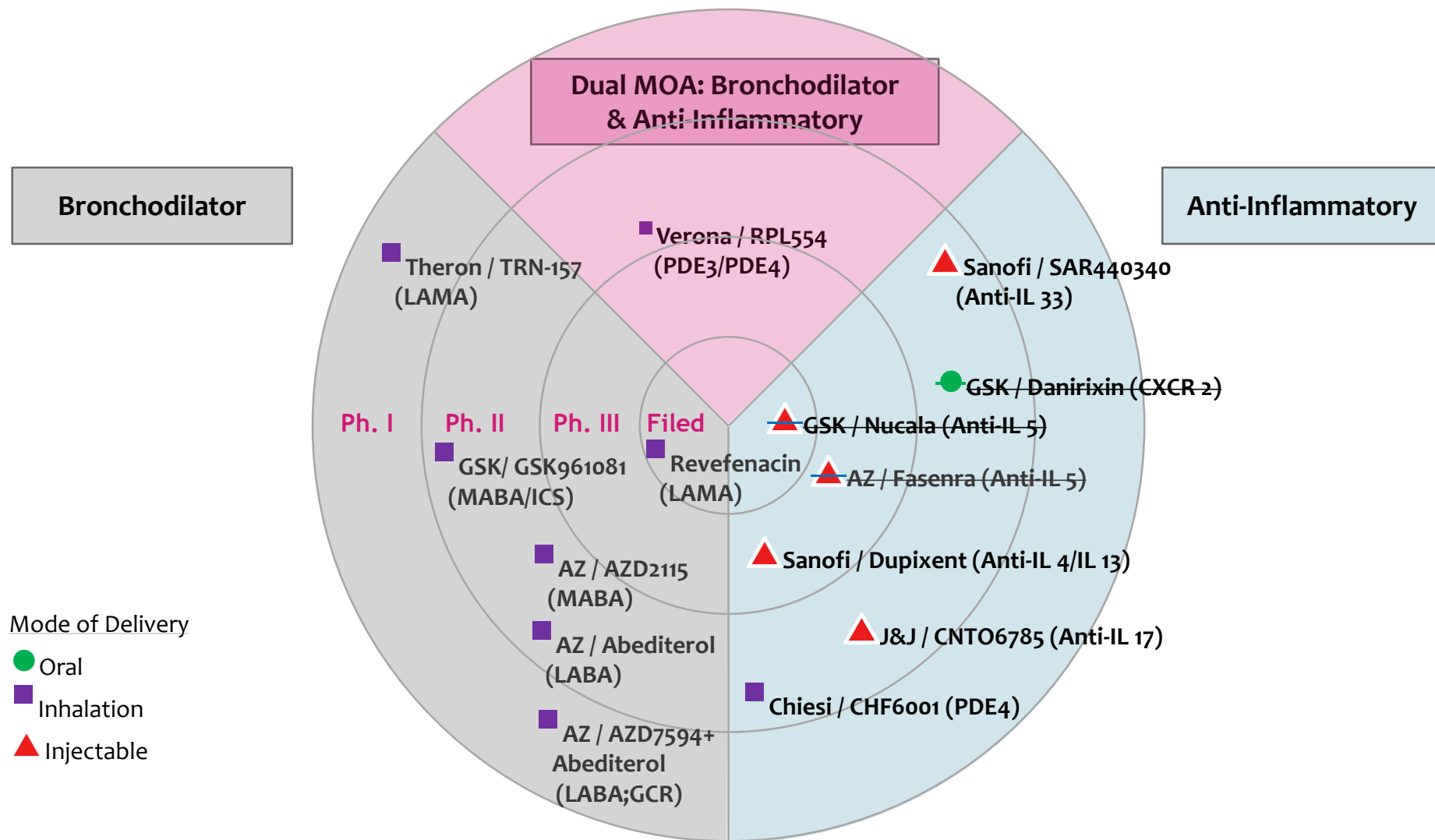
Sources: Q2 2017 US COPD patient database & physician survey research, IQVIA MIDAS Sales, Mullerova H et al. American Journal of Respiratory and Critical Care Medicine 2017; Vestbo J, et al. Lancet 2017; Bateman et al. Eur Respir J 2013; Vogelmeier et al. Lancet Respir Med. 2013; Mahler et al. Eur Respir J 2013

Compelling Need For Therapy with New Mode of Action for COPD

... but few such drugs in development for COPD



Verona Pharma



Maintenance Treatment of COPD: Substantial Market with Premium Pricing in Nebulized Segment



Verona Pharma

US Sales of common bronchodilators	Administration	Class	Avg monthly \$ WAC price ¹	US only sales \$M ²
Brovana (Sunovion)	Nebulizer - open	LABA	971	339
Perforomist (Mylan)	Nebulizer - open	LABA	972	155
Lonhala (Sunovion) ³	Nebulizer - closed	LAMA	1,190 ⁴	-
Revefenacin (Mylan/Theravance)	Nebulizer - open	LAMA	FDA approval Nov 9, 2018	
Advair (GSK)	Inhaler	LABA / ICS	398	1,094
Spiriva (Boehringer)	Inhaler	LAMA	398	1,779
Anoro (GSK)	Inhaler	LAMA / LABA	398	277
Trelegy (GSK) ³	Inhaler	LAMA / LABA / ICS	530	-

1. Oct 17 – Jan 18
2. May 2016 – April 2017
3. Launched April 2018
4. Retail price, www.drug.com

Sources: Q2 2017 US COPD patient database & physician survey research, IQVIA MIDAS Sales. Mullerova H., et al., Characterization of COPD Patients Treated With Inhaled Triple Therapy Containing Inhaled Corticosteroid [ICS], Long-Acting Beta2-Agonists [LABA], and Long-Acting Muscarinic Antagonists [LAMA] in the UK, American Journal of Respiratory and Critical Care Medicine 2017;195: A4986. Vestbo J, et al., Single inhaler extrafine triple therapy versus long-acting muscarinic antagonist therapy for chronic obstructive pulmonary disease (TRINTY); a double-blind, parallel group, randomised controlled trial, The Lancet, Vol 389, p. 1919-1929; May 13, 2017

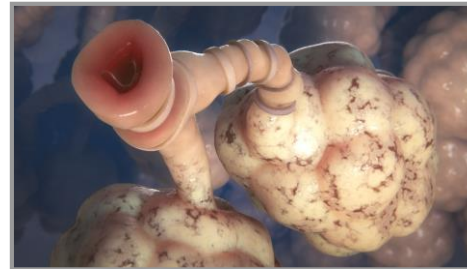
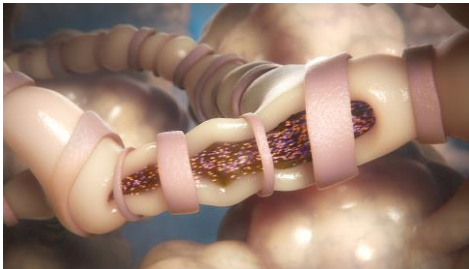
RPL554 First-in-Class Candidate: Bronchodilator and Anti-inflammatory in a Single Compound



Verona Pharma

RPL554
Dual **PDE3** and **PDE4** enzyme inhibitor

Impacts 3 Key Mechanisms in Respiratory Disease:



Airway Smooth Muscle



PDE3, **PDE4**

Relaxation



Increased bronchodilation

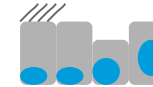
Inflammatory Cells



Neutrophils
PDE4



Eosinophils
PDE4



Epithelial cells
PDE3, **PDE4**



Lymphocytes
PDE3, **PDE4**



Macrophages
PDE3, **PDE4**

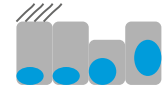


Fibroblasts
PDE4



Increased anti-inflammatory effects

Epithelial Cells



PDE3, **PDE4**

CFTR Activation



Increased mucociliary clearance

Nebulized RPL554: Effective and Well Tolerated in 12 completed Clinical Trials with >730 Subjects enrolled



Verona Pharma

Recent trials:

Trial	Program	# of Subjects	Duration	Status
Phase 1/2	SAD MAD study with new suspension formulation	112	Single dose and twice daily for 5 days	Completed Sept 2015
Phase 2a	Dose ranging in asthma	29	Single dose	Completed March 2016
Phase 2a	Add-on to each of albuterol or ipratropium	30	Single dose	Completed May 2016
Phase 2a	Add-on to tiotropium (Spiriva®)	30	Dosed twice-daily for three days	Completed Sept 2017
Phase 1	Pharmacokinetic trial, US FDA new IND	12	Single dose	Completed Sept 2017
Phase 2b	Maintenance treatment	403	Dosed twice daily for four weeks	Completed March 2018
Phase 2	Add-on to dual bronchodilator therapy (LAMA/LABA: Stiolto)	79 enrolled	Dose twice daily for three days	LPFV Oct 2018 Top-line Jan 2019

Four Week Phase 2b Study Moderate to Severe COPD

Trial Description:

- Phase 2b randomized, double blind, placebo controlled, dose ranging study
- Assess nebulized RPL554 in patients with moderate to severe COPD
- Outpatient setting
- No background bronchodilator therapy (stable ICS regimen can be maintained)

Patient Population:

- 403 moderate-to-severe COPD patients, diagnosed >12 months previously
- Males and females, age 40-75

Location:

- Approximately 45 centres in Western & Eastern Europe

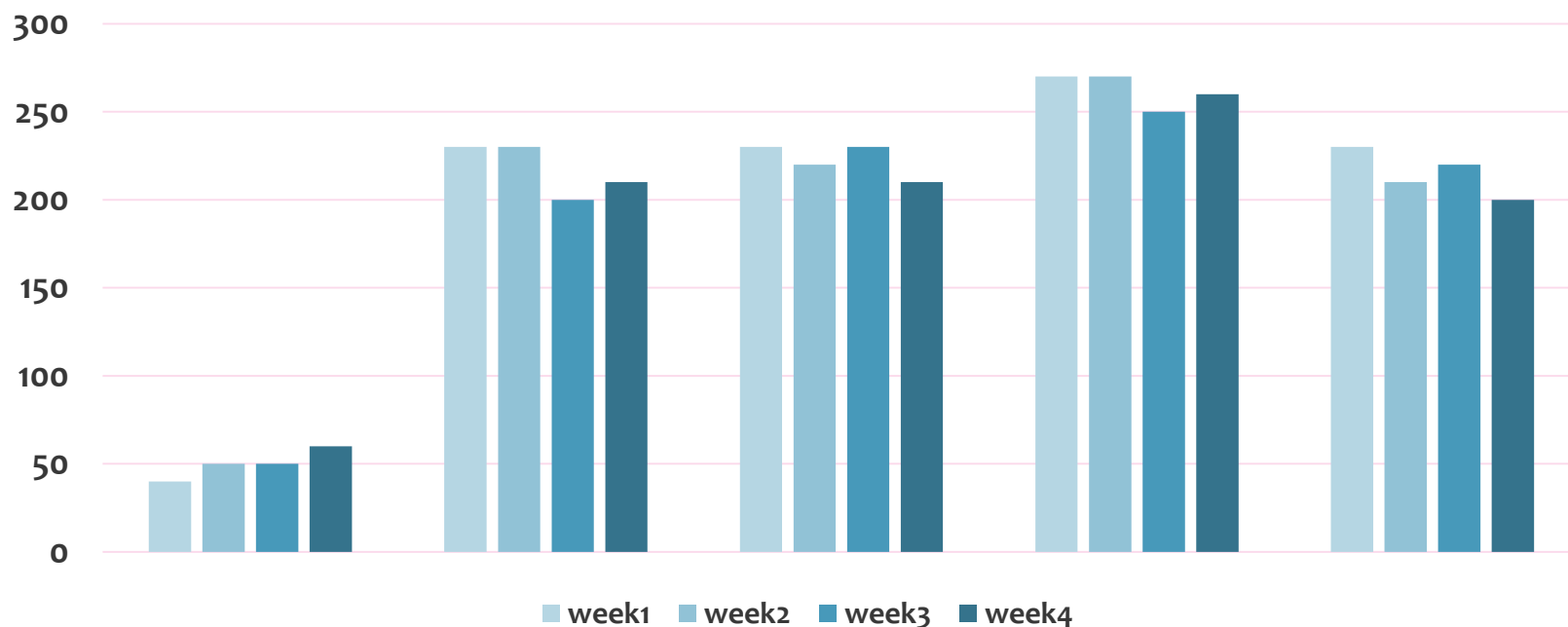
RPL554 Dosage:

- Five arms, twice daily dosing with RPL554 at 0.75 mg, 1.5 mg, 3 mg, 6 mg or placebo

Significant, Clinically Meaningful Bronchodilator Response Maintained over Four Weeks

Peak Change from Day 1 in Baseline in FEV₁ (mL) on week 4
(p<0.001)

N=403



placebo

0.75 mg

1.5 mg

3 mg

6 mg

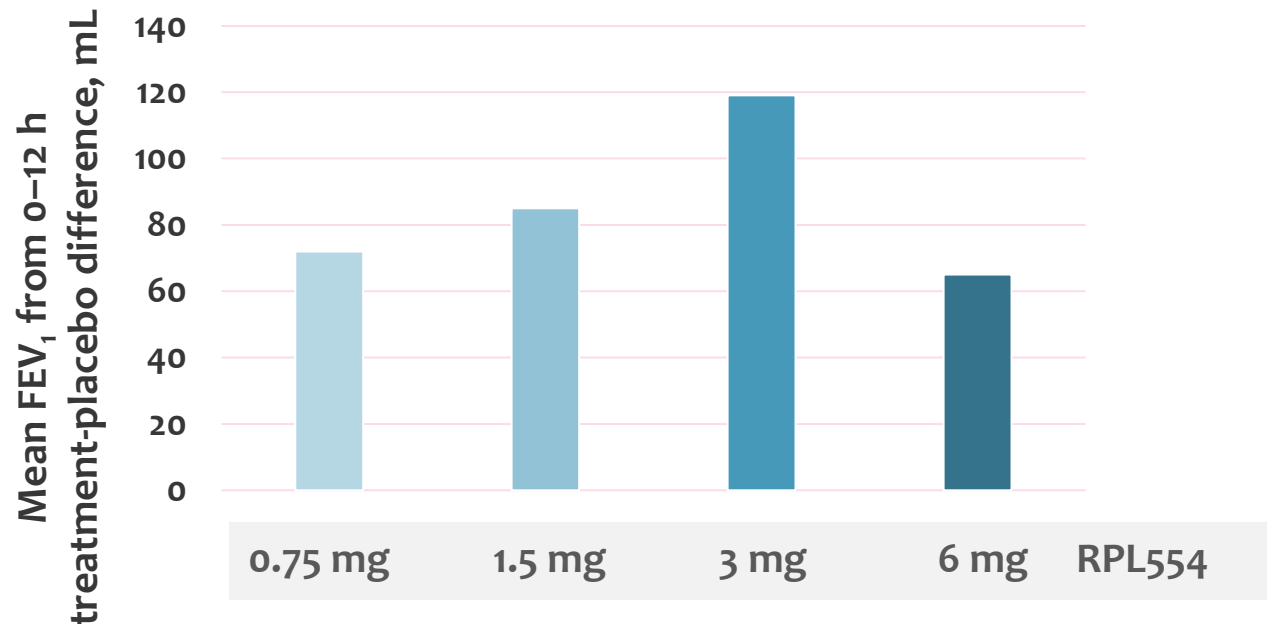
RPL554



Significant Improvement in Lung Function over 0–12 Hours after 4 Weeks Treatment

Change from Baseline FEV₁ to Average FEV₁ (ml) Over 12 Hours (p<0.05)

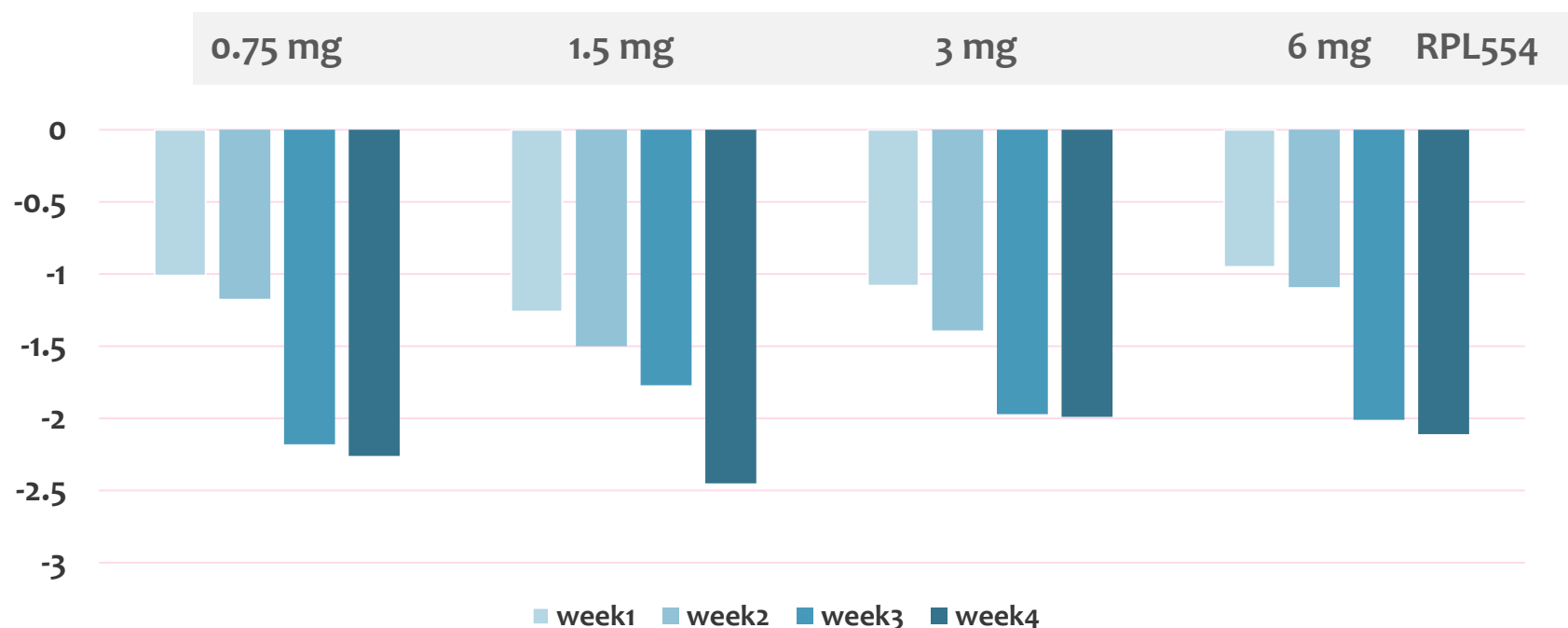
N=403



Rapid and Progressive Improvement of COPD Symptoms with All Doses from Weeks 1 to 4

Total score E-RS*: COPD by week (placebo corrected, $p < 0.02$)

N=403



(*E-RS (EXACT-PRO) - a recognized patient-reported outcome measure for use in clinical studies of COPD)

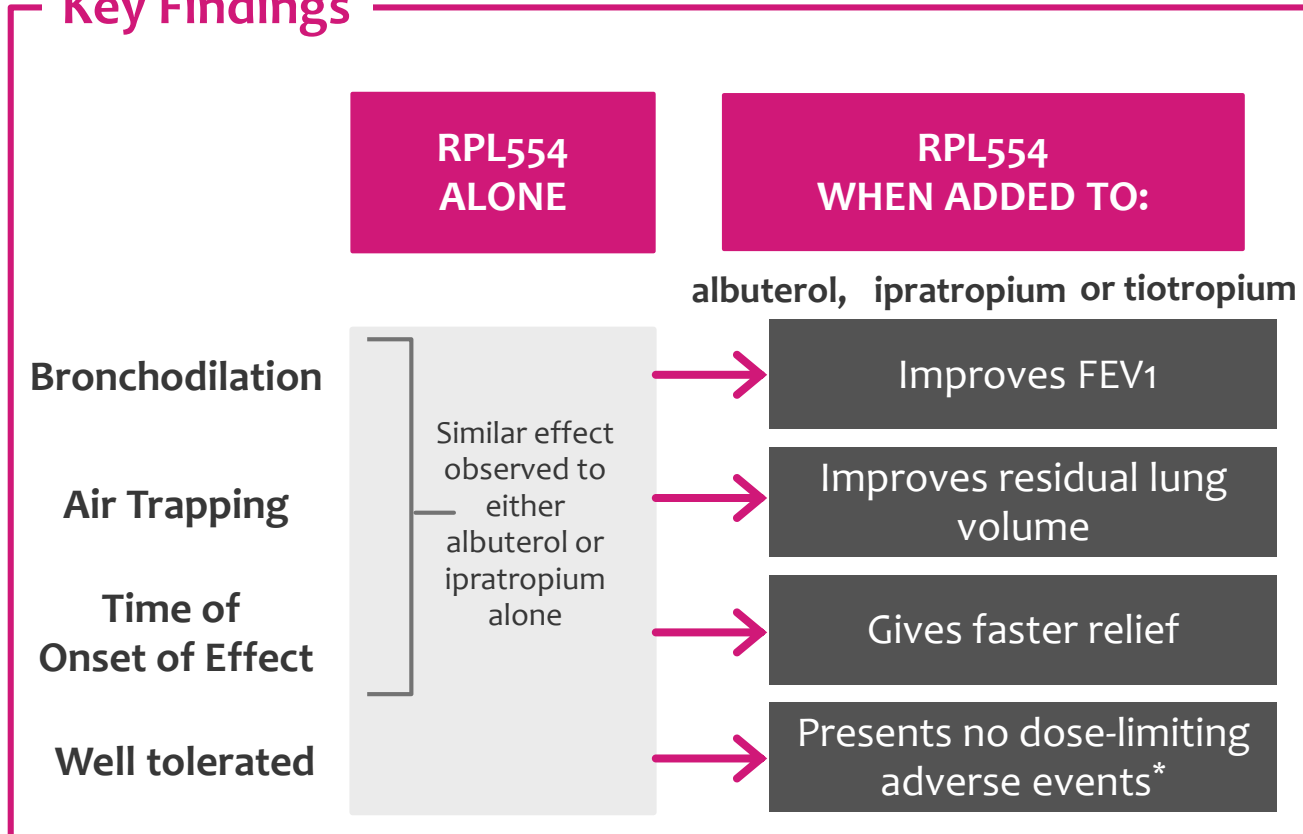
Improvement in both lung function and reduction of COPD symptoms could potentially lead to reduction in COPD exacerbations

RPL554: Add-on Effect to Single Bronchodilator Reproduced in Two Independent Studies



Verona Pharma

Key Findings



*in completed clinical trials

Source: Ph2 studies RPL554-009-2015; RPL554-CO-202

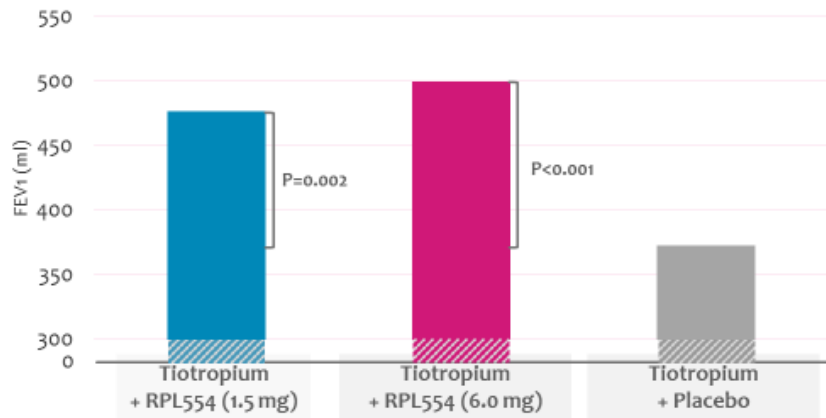
RPL554: Significant Additional Bronchodilator Response when Inhaled on Top of Tiotropium (Spiriva)



Verona Pharma

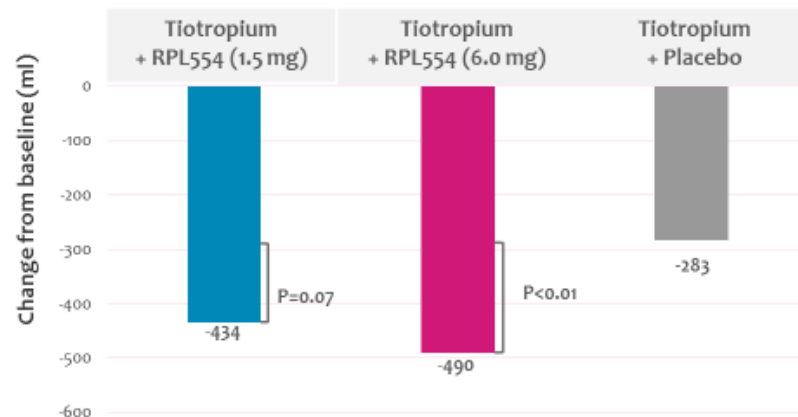
Peak Change from Baseline in FEV₁ (ml) on Day 3

N=27-28



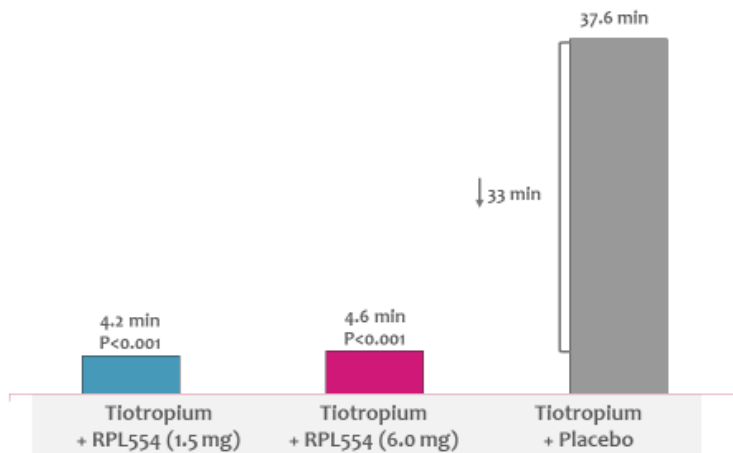
Reduction in Hyperinflation (ml) on Day 2

N=27-28



Median Time to Onset ($\geq 10\%$ improvement in FEV₁; mins) on Day 3

N=27-28



- Additional improvement in peak FEV₁
- Reduction of hyperinflation - typically correlated with improvement in symptoms
- Rapid onset of action
- Well tolerated

Evaluating RPL554 as Add-on to Dual Bronchodilator Treatment in COPD Patients

Ongoing clinical study, data expected Jan 2019



Verona Pharma

Trial Description:

- Phase 2 randomized, double blind, placebo controlled, cross-over study
- Three day treatment with baseline to peak FEV1 on Day 3 as primary endpoint
- Assess nebulized RPL554 as add-on to LAMA/LABA treatment; some patients will maintain stable dose of ICS providing a triple background

Patient Population:

- Enrolled 79 moderate-to-severe COPD patients
- Males and females, age 40-75

Location:

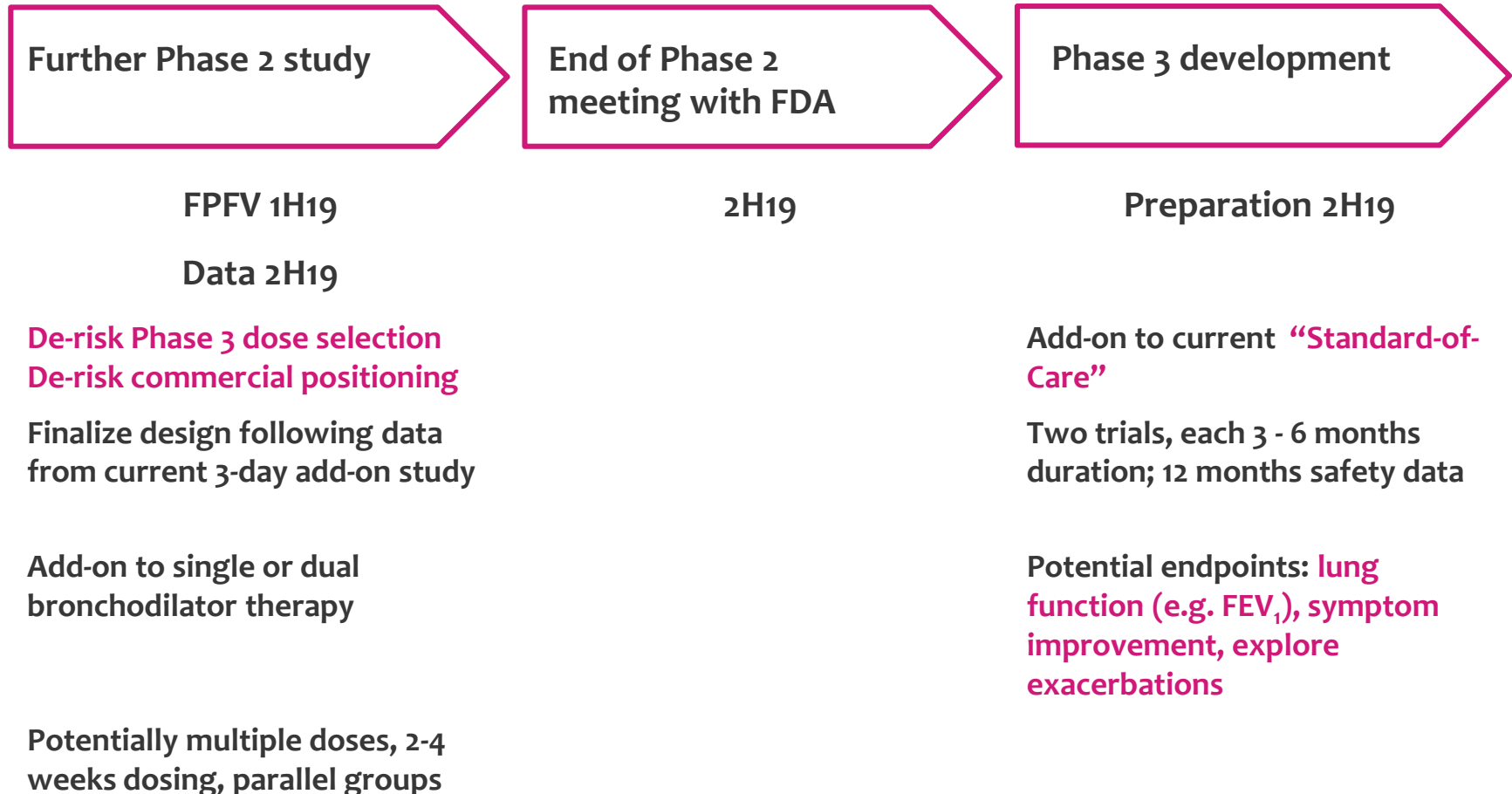
- Centres in US and UK

RPL554 Dosage:

- Three arms, twice daily dosing with RPL554 at 1.5 mg and 6 mg or placebo



Planned Development Pathway – Next Steps

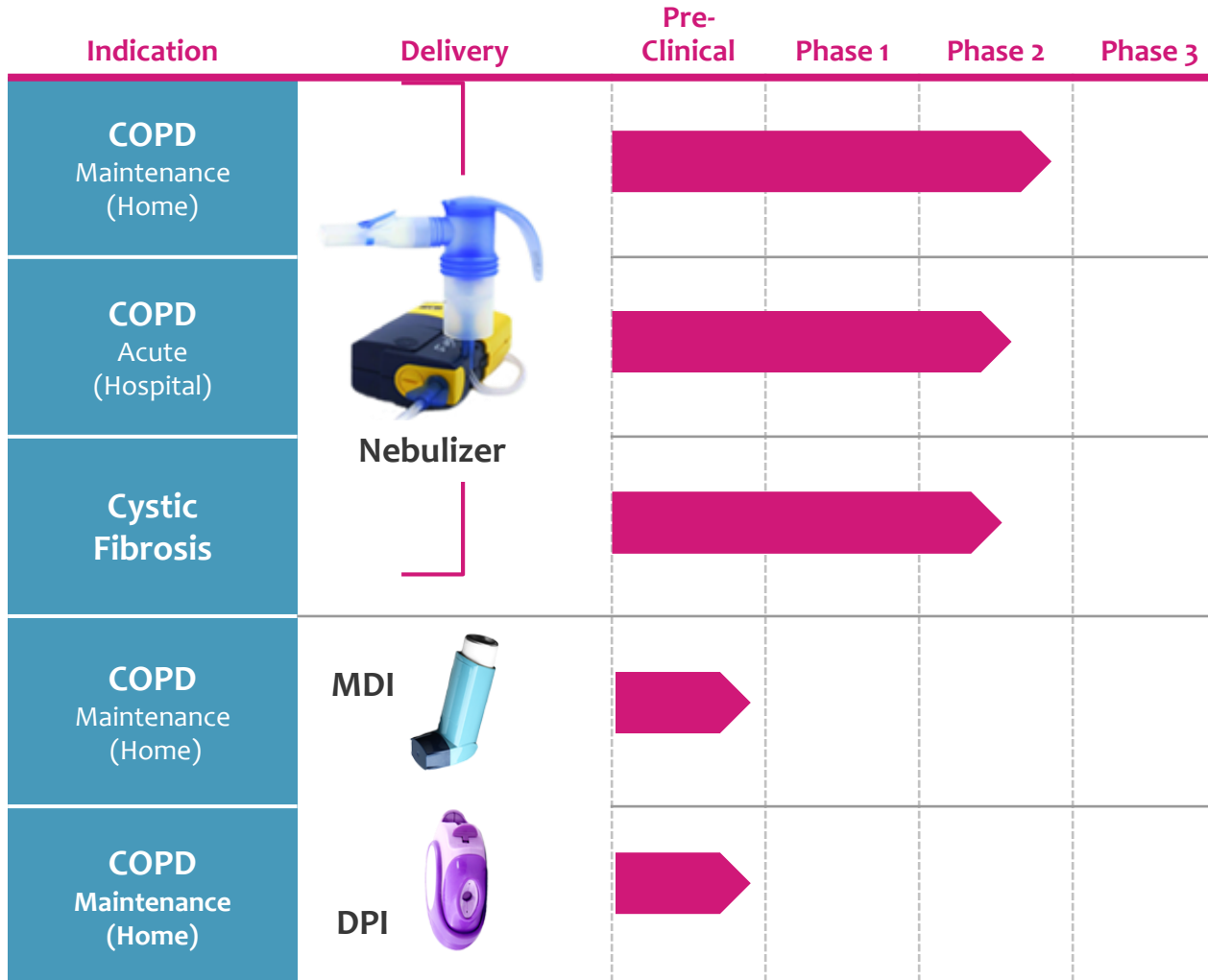


Following registration for COPD maintenance treatment, opportunity to expand into Acute Exacerbations, CF, Asthma and other respiratory diseases

RPL554: Robust Product Pipeline



Verona Pharma



Compelling data in COPD and CF

Additional opportunities in novel inhaler formulations and potentially in asthma

DPI and MDI Formulations of RPL554 - Potential to Expand Commercial Opportunity in COPD

- Inhaler usage for maintenance therapy (U.S. estimates)
 - ~90% of 3.7 million mild/moderate COPD patients
 - ~80% of 2.7 million severe/very severe COPD patients
- Next steps in DPI and MDI formulation development
 - DPI clinical trials planned to start in **December 2018**
 - MDI clinical trials planned to start in **1H 2019**
- Potential to broaden use in other indications, such as asthma
- Available for out-licensing





CF: A Devastating Orphan Disease



- Most common fatal inherited disease in U.S.
- Mutations in gene that encodes CFTR protein
- Inability to clear thickened mucus, impaired lung function and persistent lung infection
- Frequent exacerbations and hospitalization
- No cure
- Median age of death – 37 years
- RPL554 has potential to provide treatment independent of CF mutation status
 - Reduce airway obstruction and inhibit inflammation

Pre-clinical studies and Phase 2a study, data reported March 2018

RPL554: Pre-clinical Activity in CFTR Mutants and Favorable PK and PD Profile in CF Patients

In cell models:

- Activity on class IV CFTR mutants R117H, R334W and T338I
 - Activity on class III mutants G551D and S549R in presence of VX770 (+/- VX809)
 - stimulate ciliary beat frequency
-

In CF patients:

- Randomized, double blind, cross-over trial comparing 1.5 mg and 6.0 mg doses with RPL554 to placebo in 10 patients with a range of CFTR mutations
- Favorable pharmacokinetic (“PK”) profile and increased forced expiratory volume in one second (“FEV₁”) among patients with CF

**Results support further development in CF
Timing related to Ph3 preparations in COPD**



RPL554 IP Summary

Patent Portfolio:

- Composition of Matter – granted US, EU, Japan, other; expires 2020
- Polymorphs – granted US, EU, Japan, other; expires 2031
- Formulations, combinations, salt forms, use, manufacturing: granted and pending in US, EU, and other territories; expiries 2031 – 2037
- Additional IP opportunities being explored

New Chemical Entity

- US: Market exclusivity 5 years post NDA approval
- EU: Market & Data exclusivity up to 10 years post Marketing Authorization

Verona Pharma has global rights



Well Financed with Major Healthcare Investors

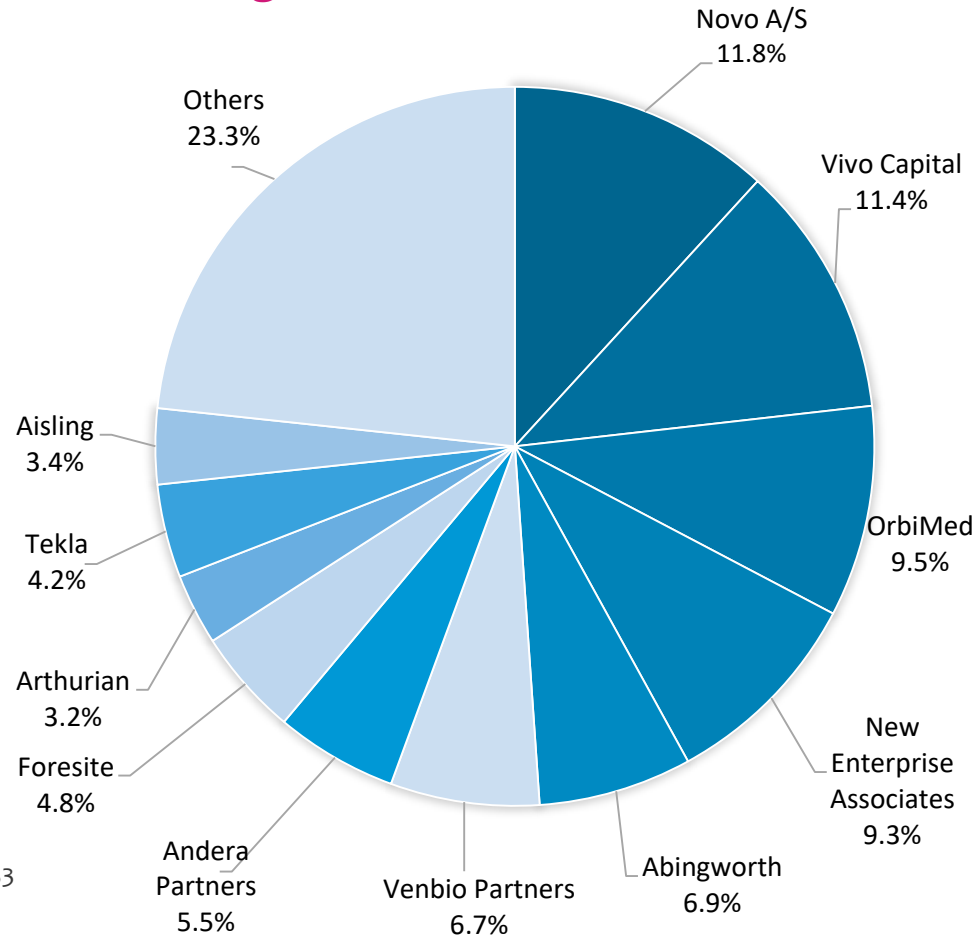
Financial Overview September 30, 2018

Cash and Cash Equivalents	\$89.9M ¹
---------------------------	----------------------

Operating Expenses Year To Date 3Q18	\$23.9M ¹
--------------------------------------	----------------------

Market cap	\$203M ^{1,2}
------------	-----------------------

Shareholdings



¹Exchange rate used (US dollars per pound sterling): September 30, 2018: \$1.3053

²Fully diluted 125m shares or 15.6m ADSs, share price 120p on November 6, 2018



Multiple Near-Term Inflection Points

Clinical Development	Timing
Nebulized RPL554 as maintenance treatment of COPD	
Additional data from Phase 2b study presented at ERS	Sept 2018 ✓
Top-line data from Phase 2 RPL554 as add-on to LAMA/LABA w/wo ICS	Jan 2019
Further Phase 2 trial, multi dose, 2-4 weeks, add-on to single or dual bronchodilator therapy	Start 1H 2019
Data from multi-dose 2-4 week study	2H19
FDA: EOP2 meeting	late 2019
Subsequently, advancing into Phase 3 trials	end 2019/early 2020
RPL554 DPI and MDI Formulation	
DPI start of clinical Phase 2 trials	Dec 2018
Top-line data from Phase 2 DPI studies	1H 2019
MDI start of clinical Phase 2 trials	1H 2019
Estimated top-line data MDI Phase 2 trials	2H 2019

RPL554: A Promising Novel Treatment For Patients with COPD:

Data collected to date indicates:

- ✓ RPL554 – unique PDE3/4 inhibitor with **bronchodilator and anti-inflammatory effects**, and well tolerated
- ✓ Improves symptoms in **moderate to severe**, symptomatic COPD patients on twice daily dosing
- ✓ Effective both as **stand-alone drug** and as **add-on** to standard COPD treatments

Planning FDA End of phase 2 meeting in **2H 2019**

Subsequently, **advancing nebulized RPL554** into Phase 3 trials in uncontrolled and symptomatic patients despite using standard COPD medications