

Verona Pharma



Breathtaking science

Developing respiratory drugs for better quality of life

Wedbush PacGrow Healthcare Conf
New York August 2019

Nasdaq: VRNA
AIM: VRP
www.veronapharma.com



Forward-looking statements

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Ensifentrine is a first-in-class candidate for respiratory disease

Plan to enter global Phase 3 studies in 2020

Inhaled PDE₃ and PDE₄ inhibitor



Bronchodilator and anti-inflammatory agent
in a single compound
Rich patent estate (until mid-2030s)

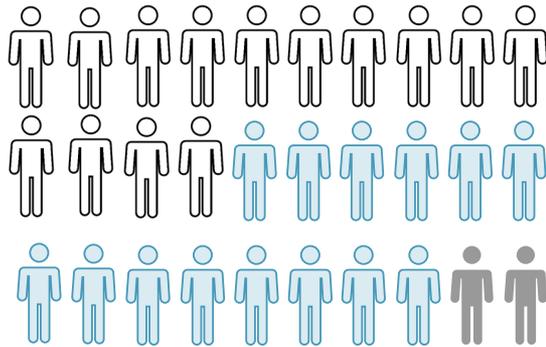
A very significant commercial opportunity

Large US COPD market



COPD: The silent epidemic

~30 million patients in US alone



~16M
Diagnosed

~2M
Severe/
very severe

Cost

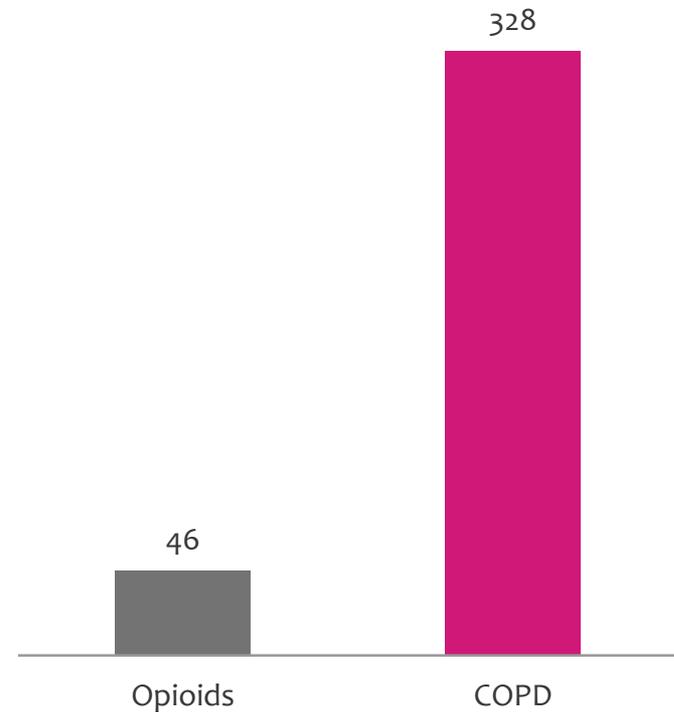
~\$50 billion/year by 2020

Indirect & direct

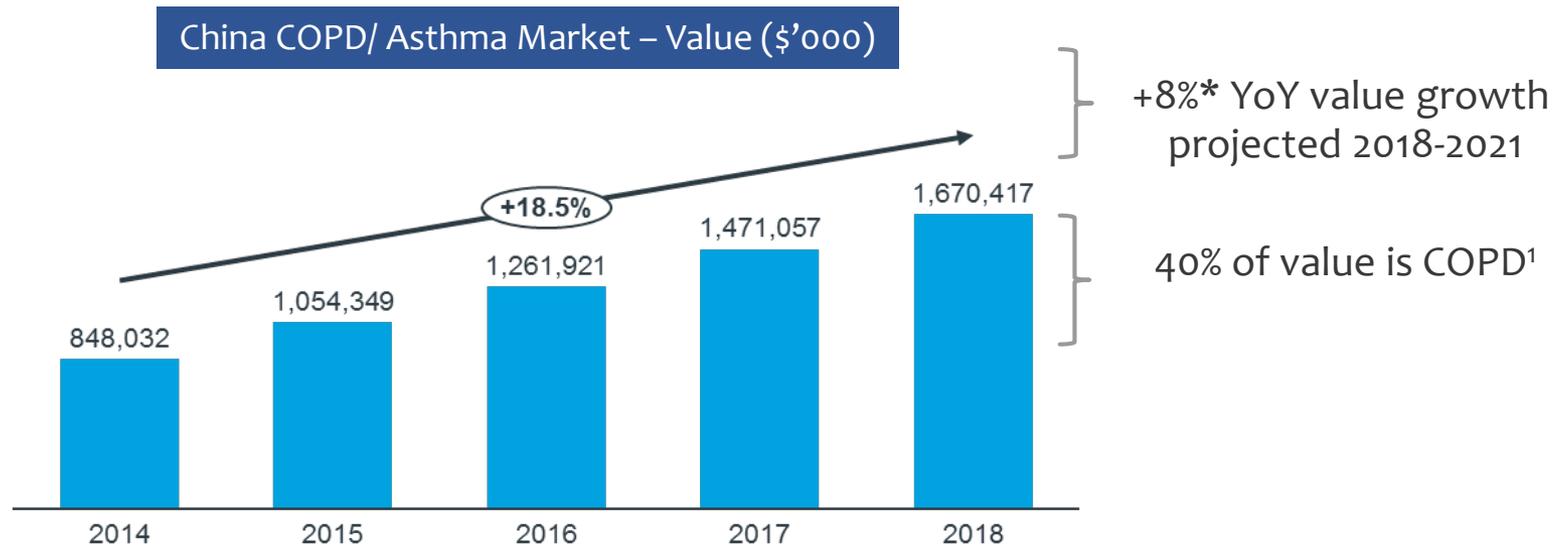
Sources: COPD Foundation. Sullivan J, et al. *Chronic Obstr Pulm Dis.* 2018; 5(4): 324-333.

3rd leading medical cause of death by disease in US

Deaths/Day



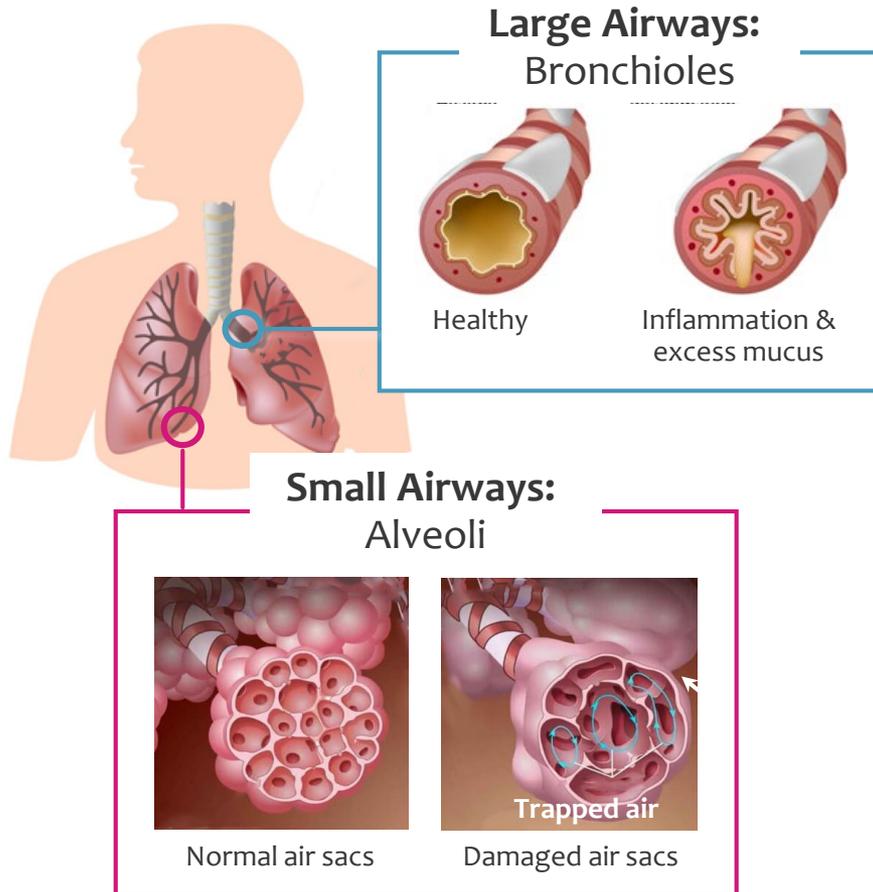
China: Large and Fast Growing COPD Market



- Treated COPD population: ~8 million (vs US 6M) cigarette smoking and air pollution leading causes
- Hospital driven market ~90% of sales in terms of value (vs. US ~80% in retail channel)
- ~15,000 hospital ‘nebulizer rooms’ supporting annual ~\$500M Pulmicort nebulized market



COPD: a significant unmet need



Consequences and symptoms

- Debilitating breathlessness
- Coughing, sputum
- Poor lung function
- Fatigue / struggle with daily tasks
- Exacerbations / flare-ups

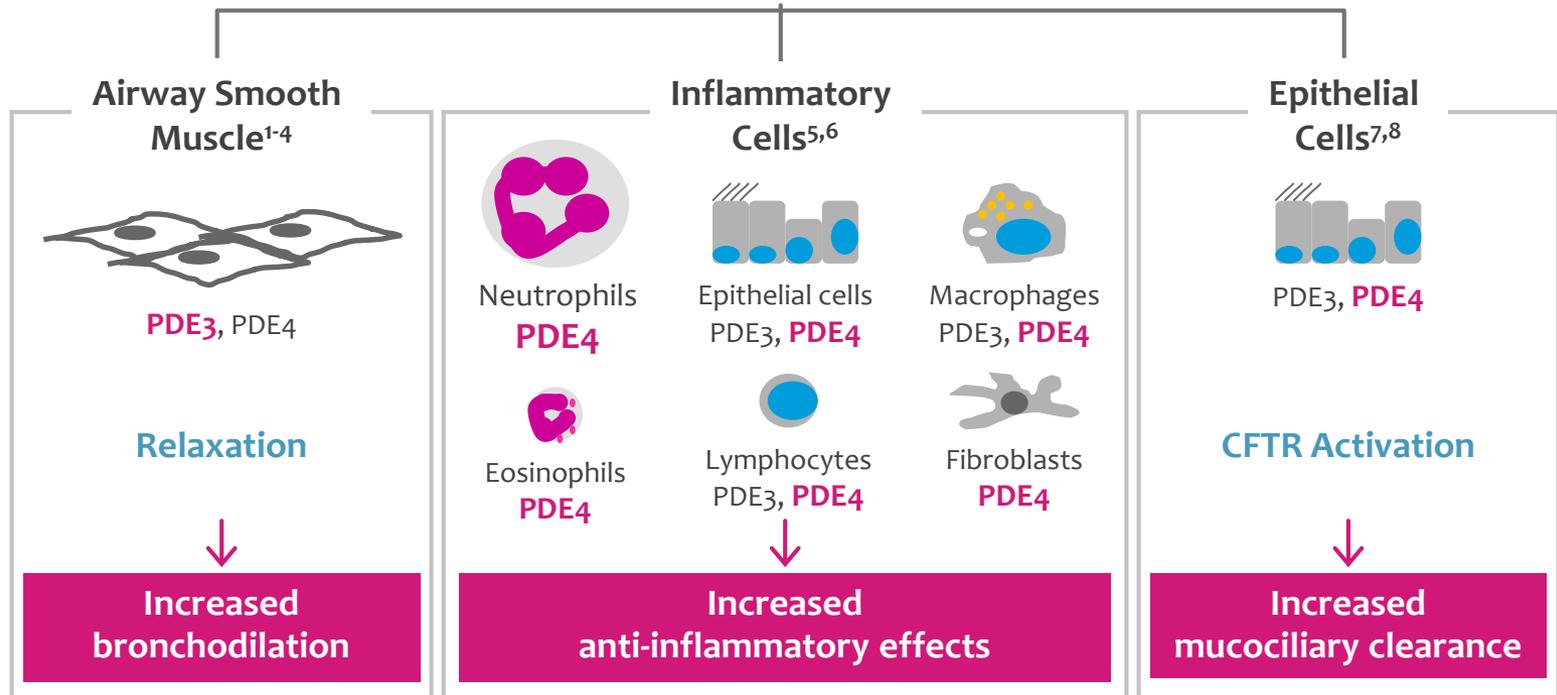
Ensifentrine first-in-class candidate: Bronchodilator and anti-inflammatory in a single compound



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Ensifentrine (RPL554)
Dual PDE3 and PDE4 enzyme inhibitor

Impacts 3 Key Mechanisms in Respiratory Disease:



1. Calzetta L, et al. J Pharmacol Exp Ther 2013;346:414-23; 2. Calzetta L, et al. Pulm Pharmacol Ther 2015;32:15-23; 3. Matera MG, et al. Am J Respir Crit Care Med 2013;187:A1495; 4. Venkatasamy R, et al. Br J Pharmacol 2016;173:2335-51; 5. Boswell-Amith V, et al. J Pharmacol Exp Ther 2006;318:840-8; 6. Franciosi LG, et al. Lancet Respir Med 2013;1:714-27; 7. Schmidt D, et al. Br J Pharmacol 2000;131:1607-18; 8. Turner MJ, et al. Am J Physiol Lung Cell Mol Physiol 2016;310:L59-70.

Nebulized ensifentrine in COPD: Very large market opportunity in US

6M treated



2M on dual/triple therapy

800,000 symptomatic patients on dual bronchodilator/triple therapy
need additional treatment

Current market data	Potential patient population
About 1/3 of moderate to severe patients use nebulizer	>250,000
Avg. Annual WAC Price of existing nebulized COPD drugs	\$12,000

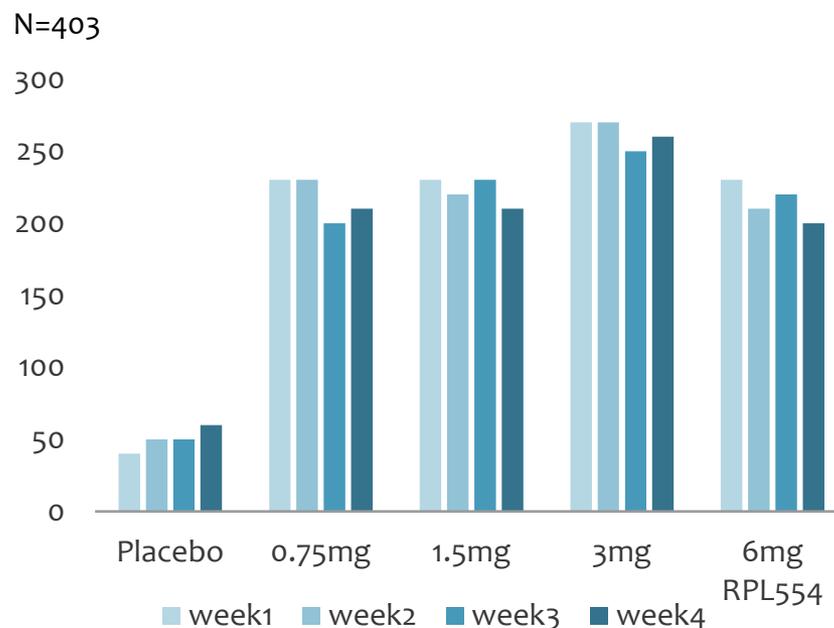
Attractive Medicare Part B Reimbursement

Top-prescribing physicians can be reached with targeted specialist salesforce

Phase 2b as stand-alone treatment: Rapid, Significant and Clinically Meaningful Bronchodilator Response Maintained over Four Weeks

Lung function

Peak Change FEV₁ (mL), p<0.001*

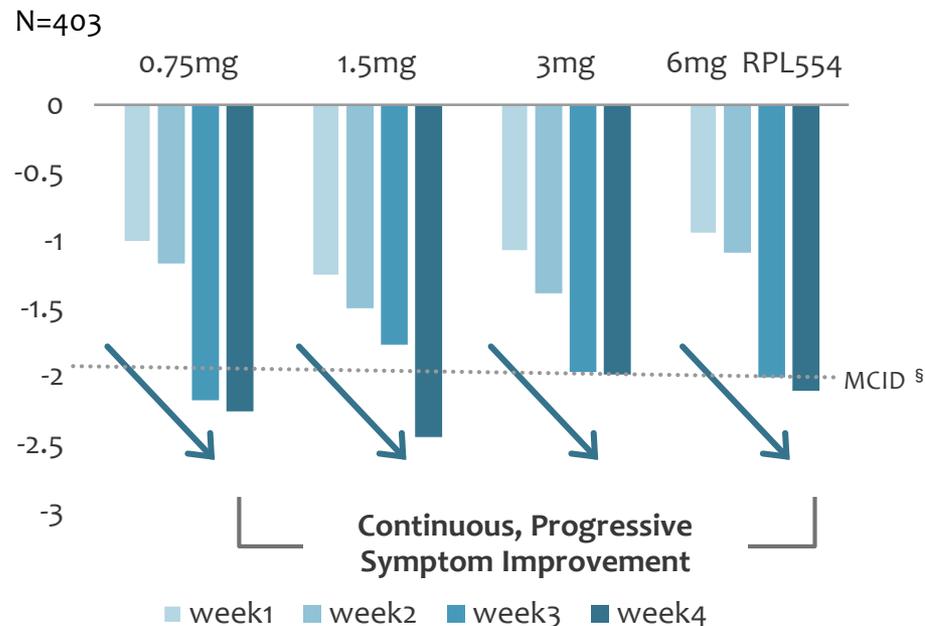


*Peak Change from Day 1 in Baseline in FEV₁ (mL) on Day 28, Week 4, Primary endpoint was met

4 Week Phase 2b: Progressive symptom relief as single treatment

Symptom relief

Total Score E-RS: COPD by Week, $p < 0.02^{**}$



** Placebo corrected

§ Minimal clinically important difference

Symptom improvement believed to be due to anti-inflammatory effect

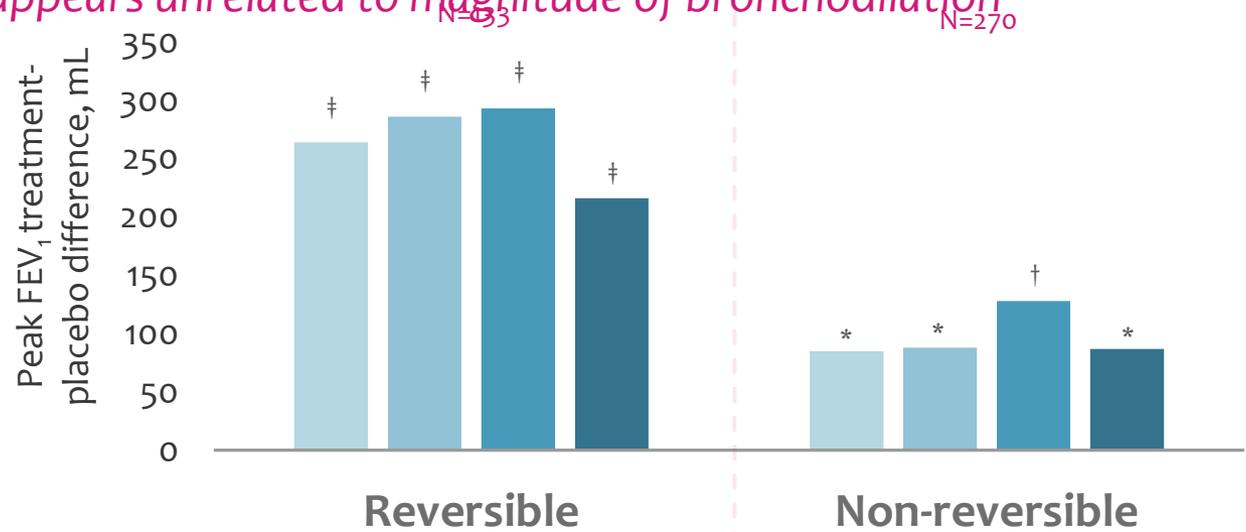
Effective symptom improvement in both reversible and non-reversible patients with COPD



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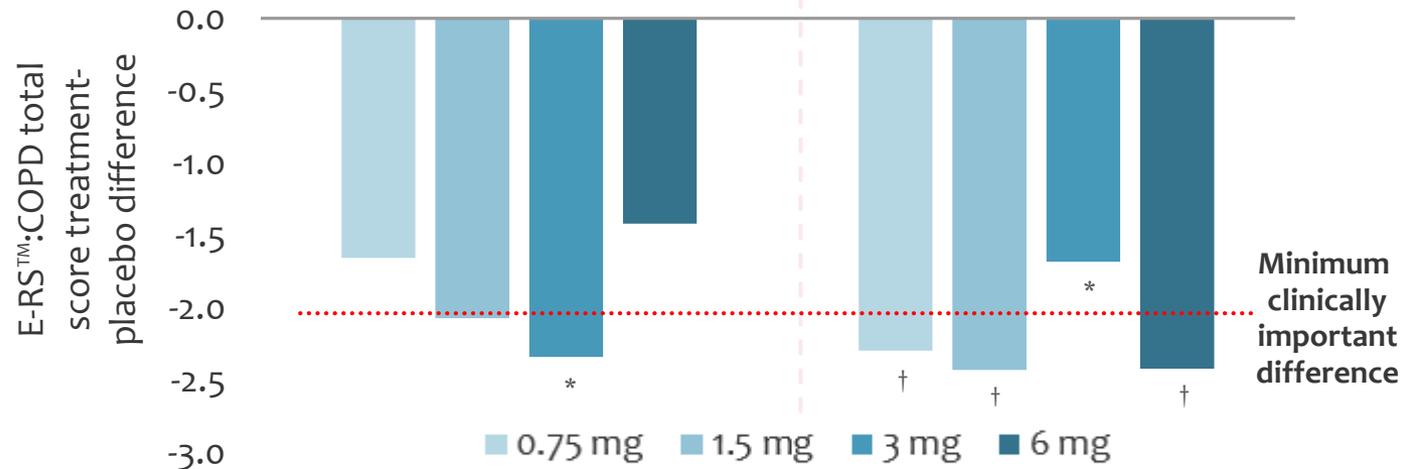
Symptom improvement appears unrelated to magnitude of bronchodilation

Lung function
Peak FEV₁ at Week 4



Reversibility defined as pre- to post-salbutamol change in FEV₁ at screening of ≥ 200 mL and $\geq 12\%$.

Symptom relief
(E-RS™:COPD total score at Week 4)



4-week Phase 2b study in 403 moderate-severe COPD patients, no background bronchodilator therapy.

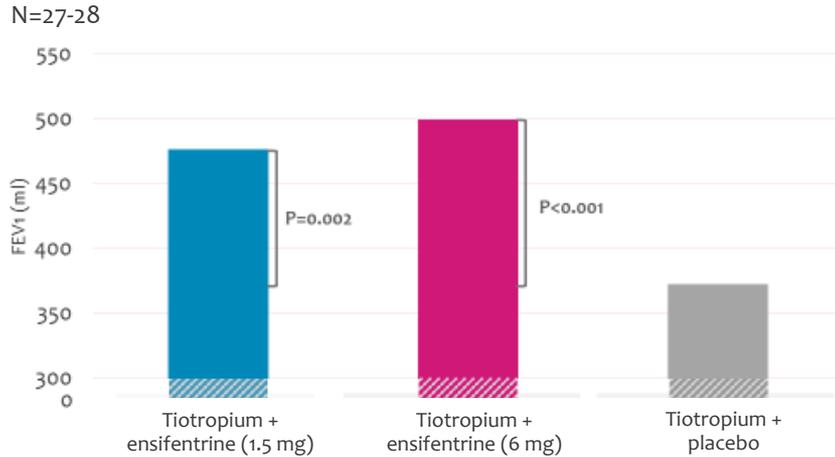
*p<0.05; †p<0.01; ‡p<0.001. Data are least squares mean ensifentrine-placebo differences.

Phase 2 as add-on to tiotropium (Spiriva): Significant Additional Improvements in lung function

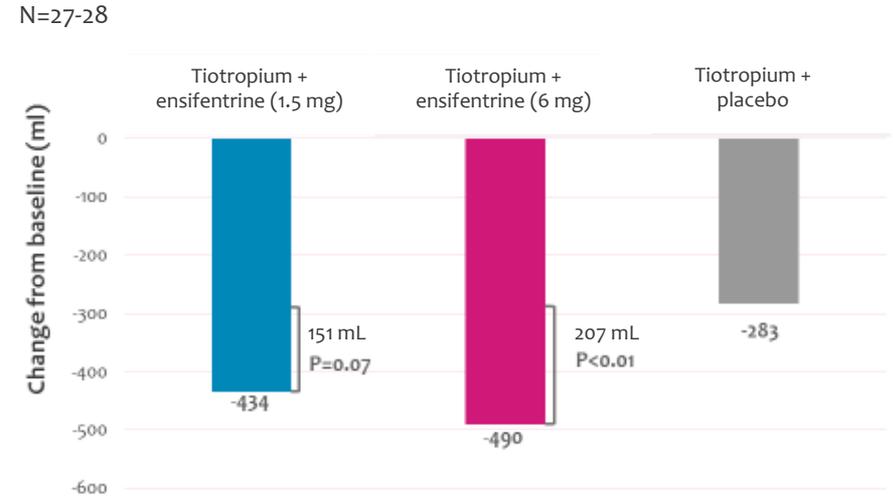


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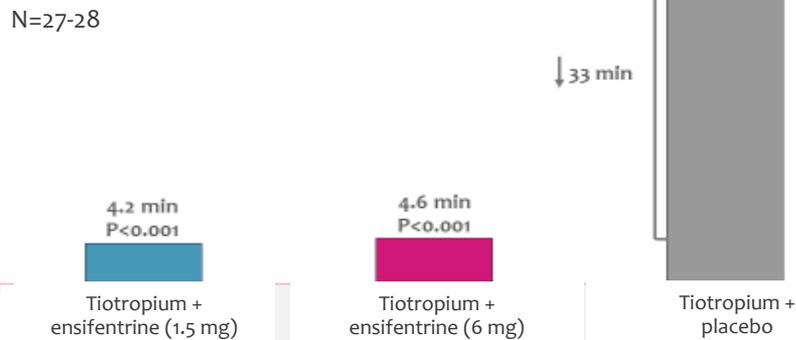
Change in Morning **Peak FEV₁** from Baseline (mL), Day 3



Reduction in **Hyperinflation** (mL) on Day 2 (Morning)



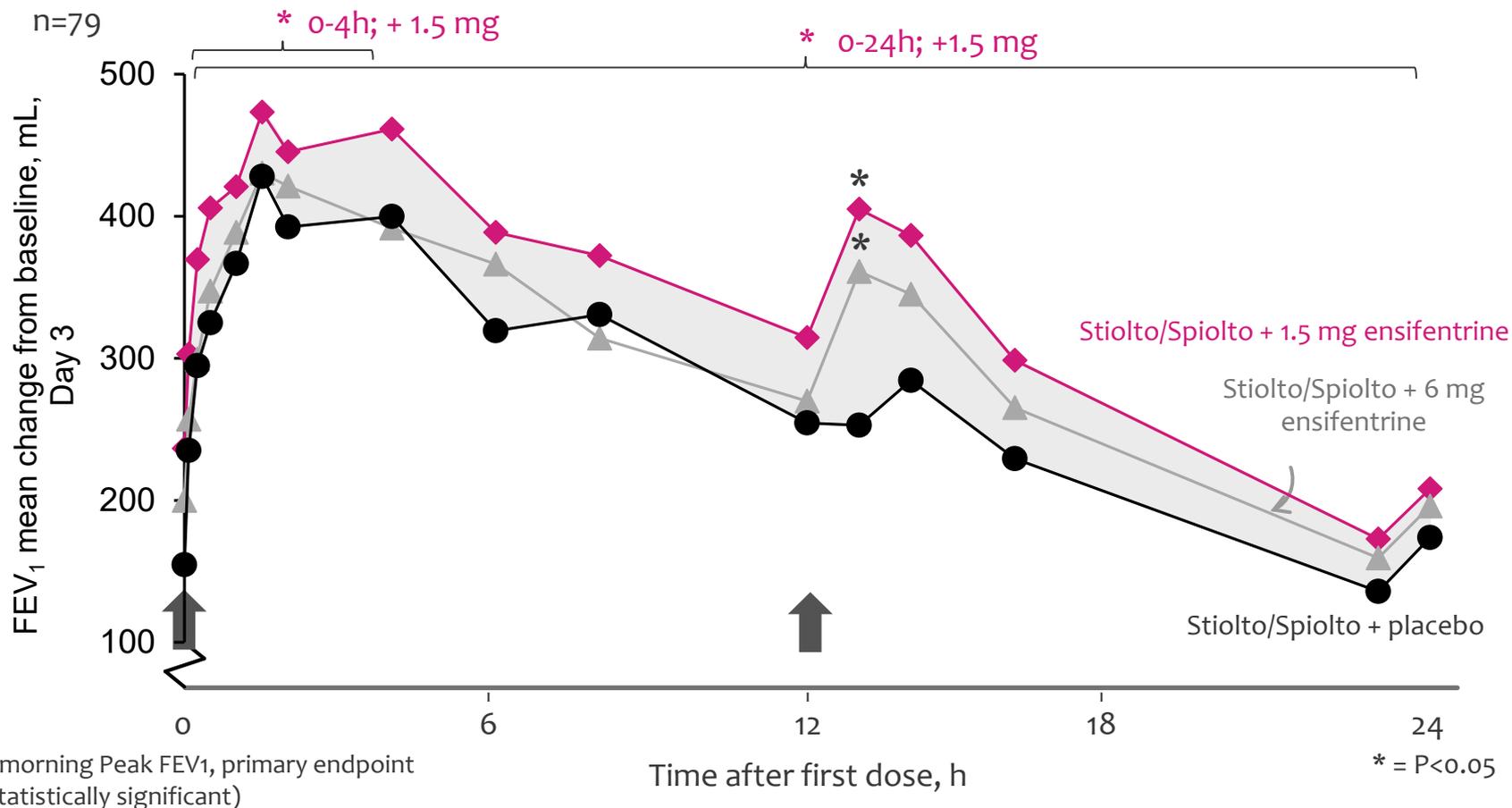
Median **Time to Onset** on Day 3
(≥ 10% Improvement in FEV₁; mins)



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

Phase 2 as add-on to dual and triple COPD therapy: additional lung function improvement over 24 hours

Further reduction in hyperinflation 140-260 ml



28% of patients used triple therapy (LAMA, LABA, ICS)

Potential to improve FEV₁ and symptoms in patients with no further maintenance treatment options

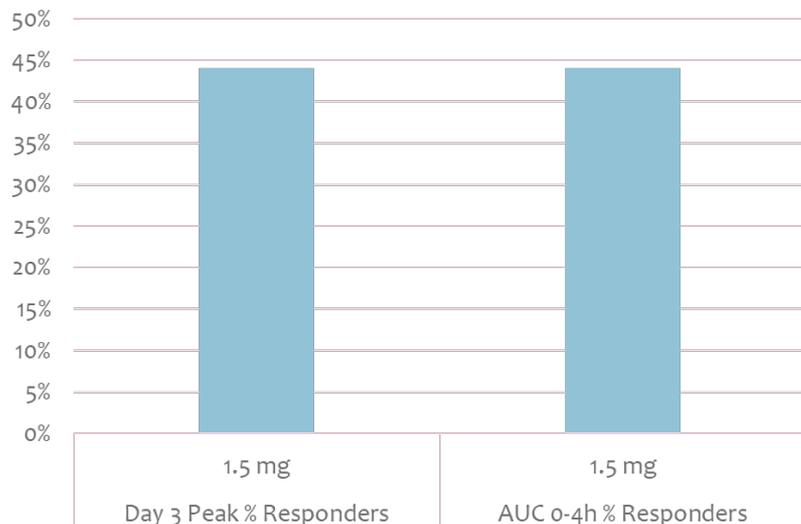
Learnings from 3 day study informs Ph3 positioning study in COPD

Results from post hoc analysis

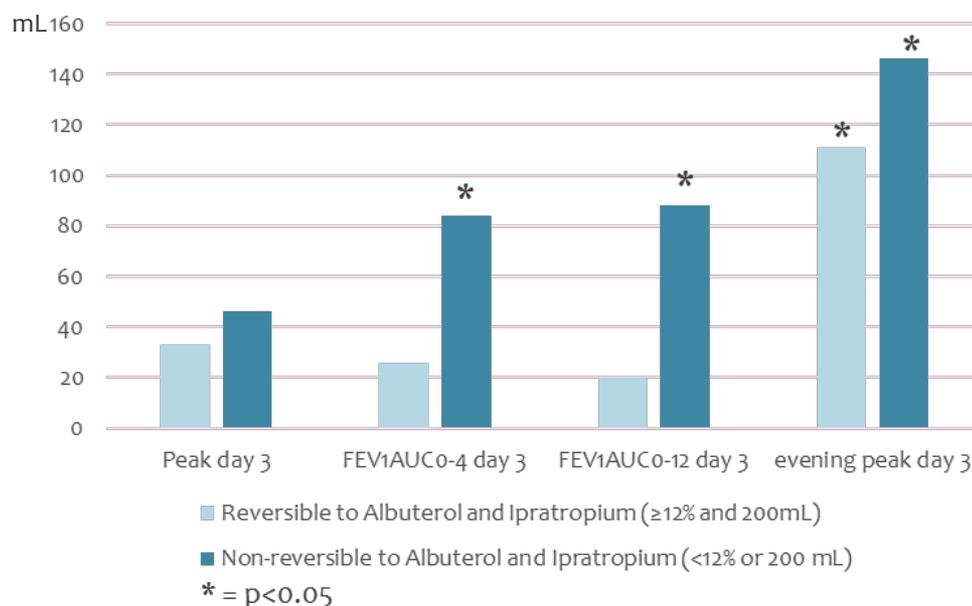


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>40% of patients had ≥ 100 mL increase in peak FEV₁ vs placebo



1.5 mg ensifentrine: additional response in non-reversible patients vs. those reversible to beta2 agonist and muscarinic antagonist



- 1) Enrich Ph3 study, as add-on to dual/triple therapy, with symptomatic patients that are also poorly reversible to standard bronchodilators,
- 2) explore most effective endpoints and
- 3) drop 6 mg top dose

Phase 2b, 4 week study as add-on to tiotropium to inform EoP2, Ph3 and commercial positioning

Study design

- **Purpose:** Investigate dose response of ensifentrine in moderate to severe COPD patients who are symptomatic despite treatment with tiotropium
 - **Facilitate dose selection for Phase 3** (0.375, 0.75, 1.5 and 3 mg vs placebo)
- **Population:** Moderate to severe COPD
 - **Patients will be required to be symptomatic** at randomization; mMRC ≥ 2
 - **Stable tiotropium as required background therapy** (2-week run-in on tiotropium Respimat)
- **Key Endpoints:** FEV₁ (peak, AUC, trough), E-RS symptoms

Recruitment initiated in May – data expected around year end

Nebulized ensifentrine: Advancing towards Phase 3 with differentiated profile



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Phase 2: Establish activity + profile → Phase 3:

A. Pivotal studies:
Ph3 design and endpoints as in Ph2 studies

2 trials of 6 month duration,
one with 6 month safety extension

-
None or single bronchodilator
Background ① + ②

-
FEV1 and symptom improvement,
explore exacerbations in pooled
data

B. Positioning study:
Inform physicians and payors

Add-on treatment to
dual bronchodilators
/ triple therapy

① Monotherapy
(Dose Ranging)
400 pts

Bronchodilator + anti-inflammatory
Completed 2018

Add-on to
Single Therapy
(2 Ind. P2 Studies)

Bronchodilator
Completed 2017

② Add-on to
Single Therapy
(Dose Ranging)*

Bronchodilator +
anti-inflammatory*

Add-on to
Double/Triple
Therapy

Bronchodilator
Completed Jan 2019

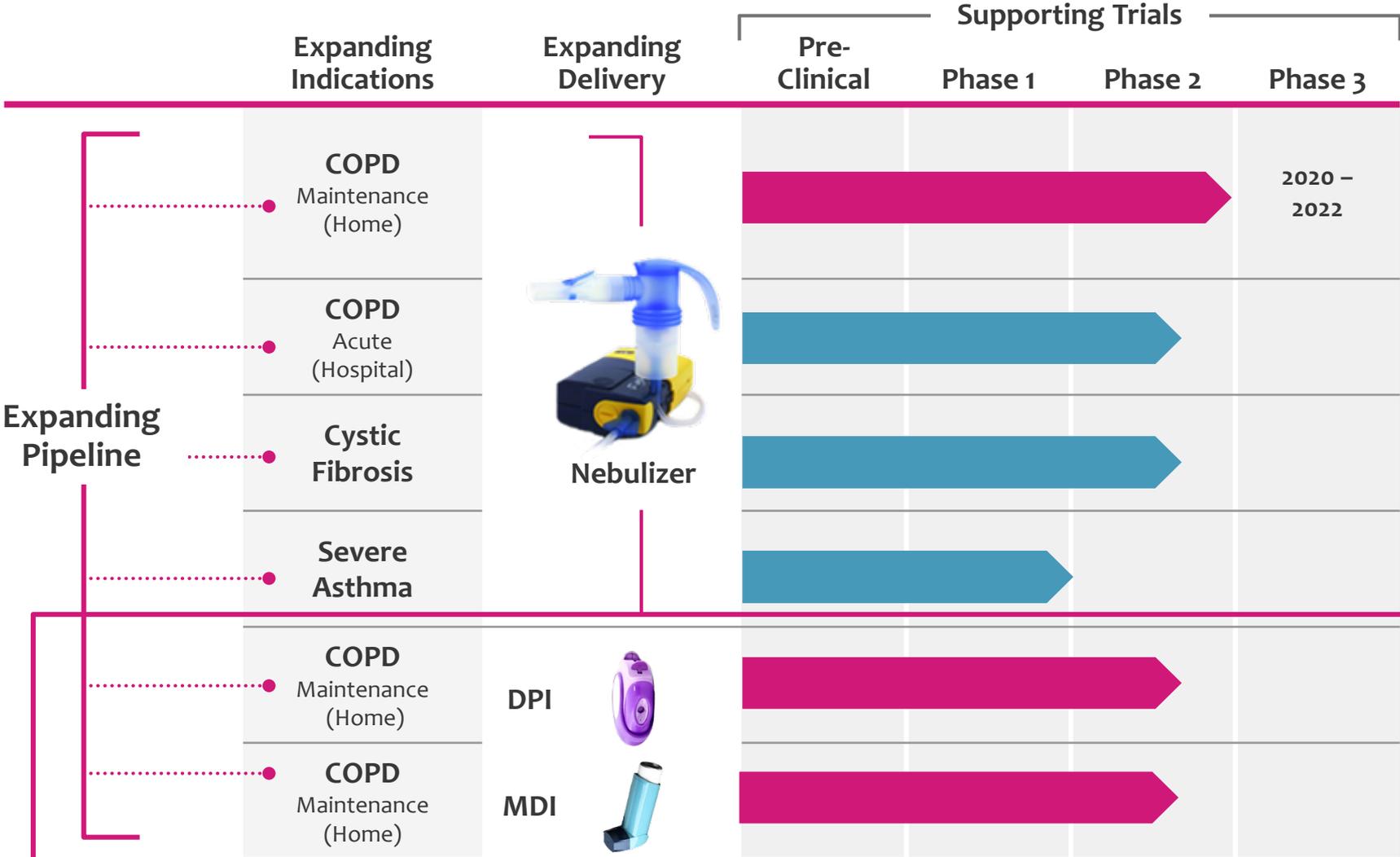
End of Phase 2 Meeting
with FDA, target H1 2020

* Results expected in 4Q 2019/1Q2020

Enfrentine lifecycle: Expanding the pipeline

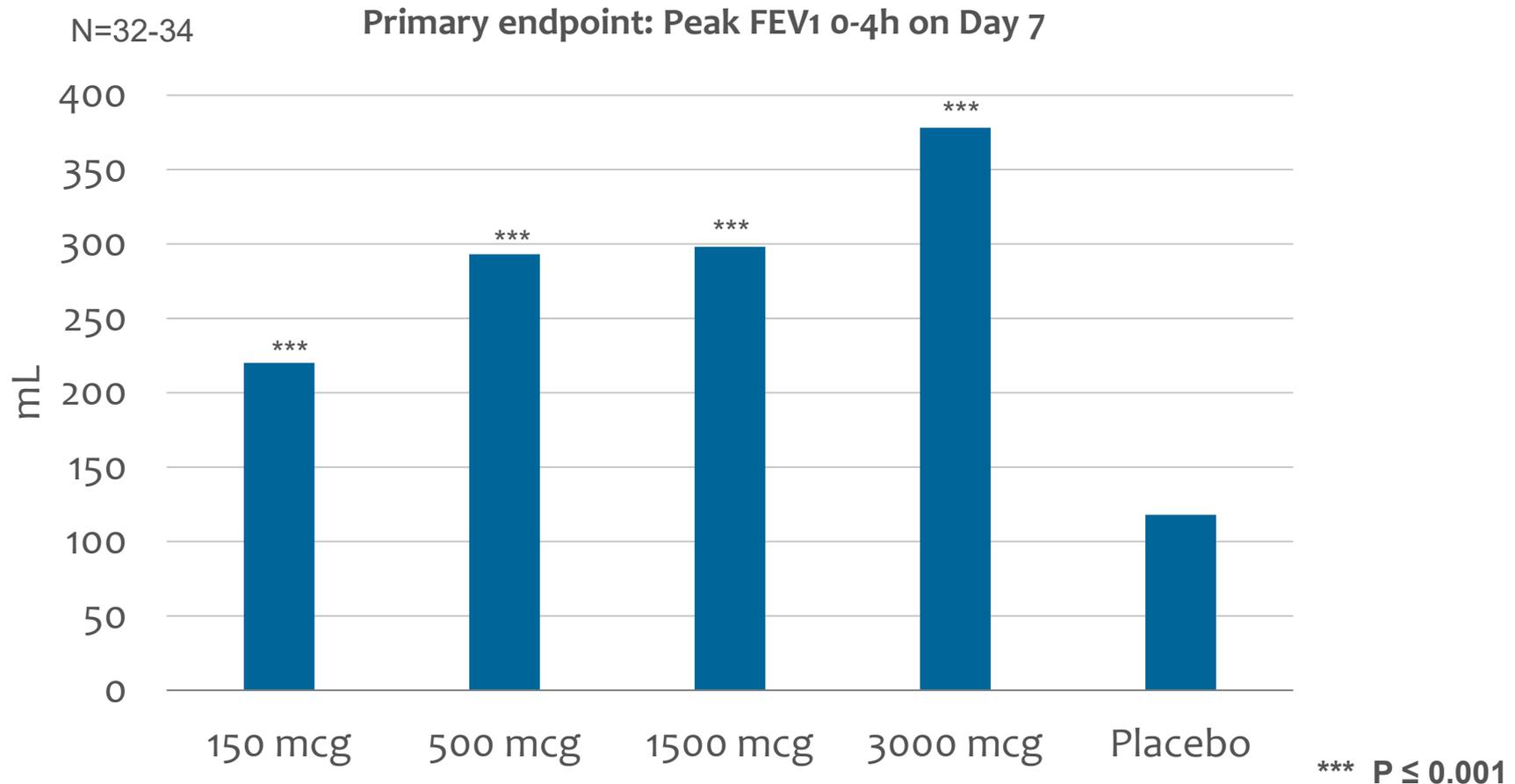


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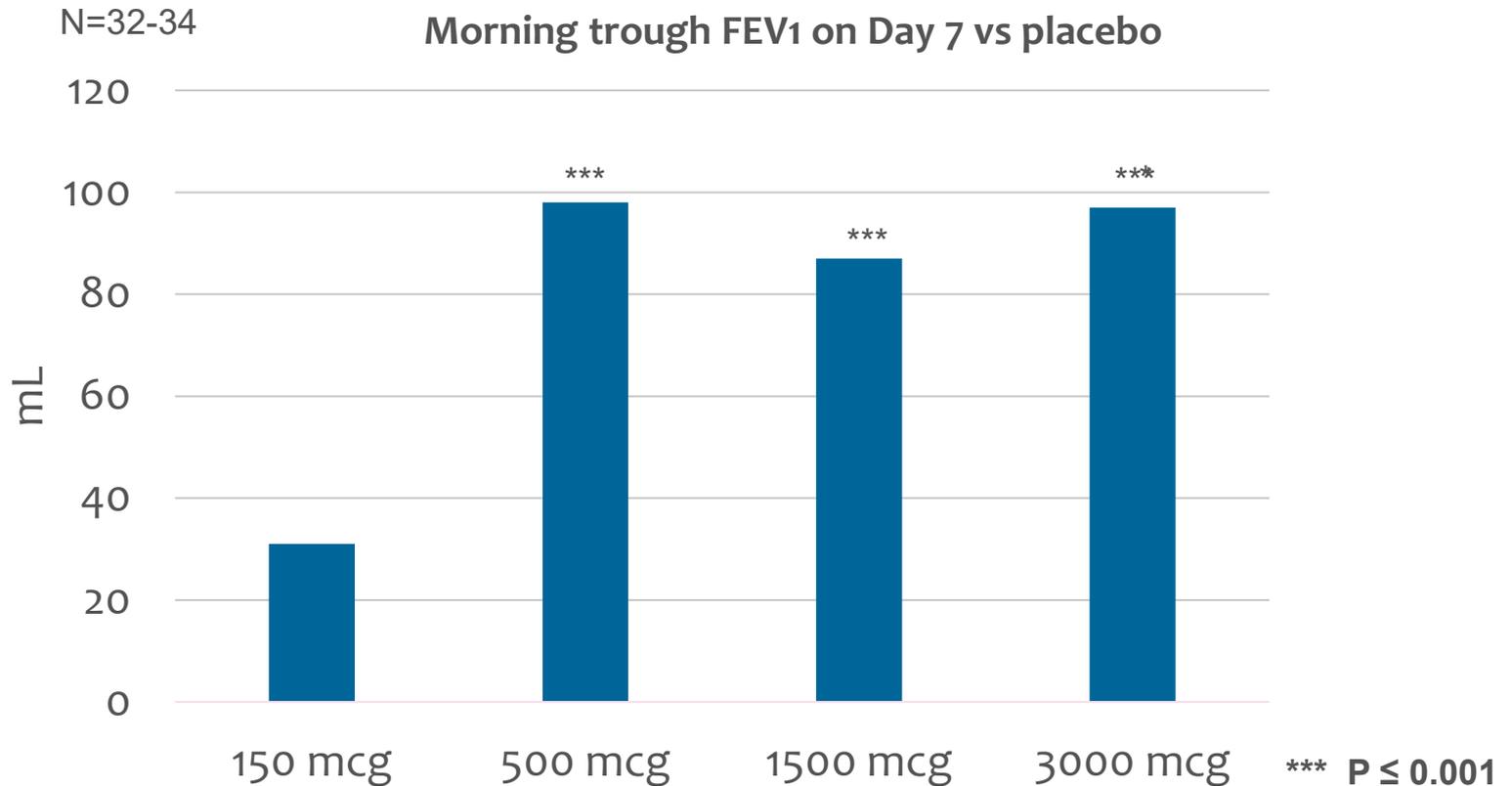
Primary endpoint met - dry powder formulation of ensifentrine produced highly significant improvement in Peak FEV₁ in COPD

Clinically meaningful, statistically significant and dose-dependent bronchodilation



Secondary end point met: Consistent Trough FEV₁ Response further support twice daily dosing

Statistically significant and meaningful improvement in trough FEV₁



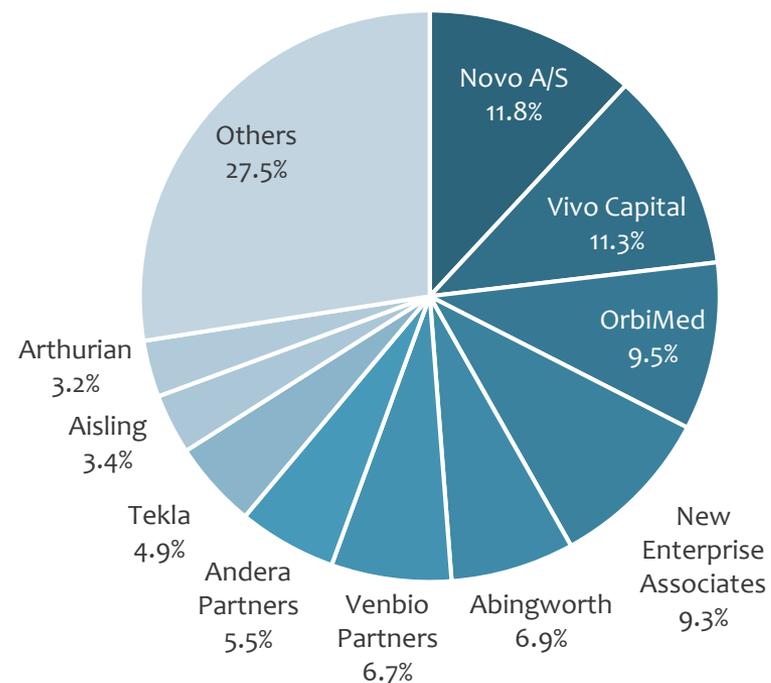
**DPI/ MDI partnering opportunity
could dramatically expand commercial potential**

Backed by major healthcare investors

Financial overview June 30, 2019

Cash and cash equivalents	\$59.1M ¹
Operating expenses 1H19	\$25.2M ¹
Market cap	\$58.0M ²

Shareholdings³



¹Exchange rate used (US dollars per pound sterling): June 28, 2019: \$1.2704

Cash and cash equivalents comprises cash + cash deposits > 3 months maturity

Cash and equivalents at June 30, 2019 amounted to £46.5M (\$59.1M)

²Current issued 105.3M shares or 13.2m ADSs, share price \$4.41 on August 9, 2019

³As disclosed to the Company in accordance with AIM Rule 26, or through s80 notices and 13F and 13G filings

Ensifentrine: Multiple value creation opportunities



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In COPD

Nebulized formulation in US

- 800,000 symptomatic patients on dual bronchodilator/triple therapy need additional treatment

Nebulized formulation in China

- Prevalence ~70 million COPD patients; potential large market for nebulized drugs as about 90% of drug sales are in the hospital

DPI or MDI formulation for COPD

- Large market, >5 million patients in US; partnering opportunity

In other indications

Cystic fibrosis

- Potential first anti-inflammatory drug, independent of CF mutation status

Severe Asthma

- Bronchodilator and anti-inflammatory agent, possibly before initiating more restrictive biologics treatments

Chronic cough

- Anti-inflammatory mechanism reduces cough and improves mucociliary clearance

Nebulizer Phase 3 planned to start in US in 2020

Upside potential: China, DPI/MDI formulations and additional indications

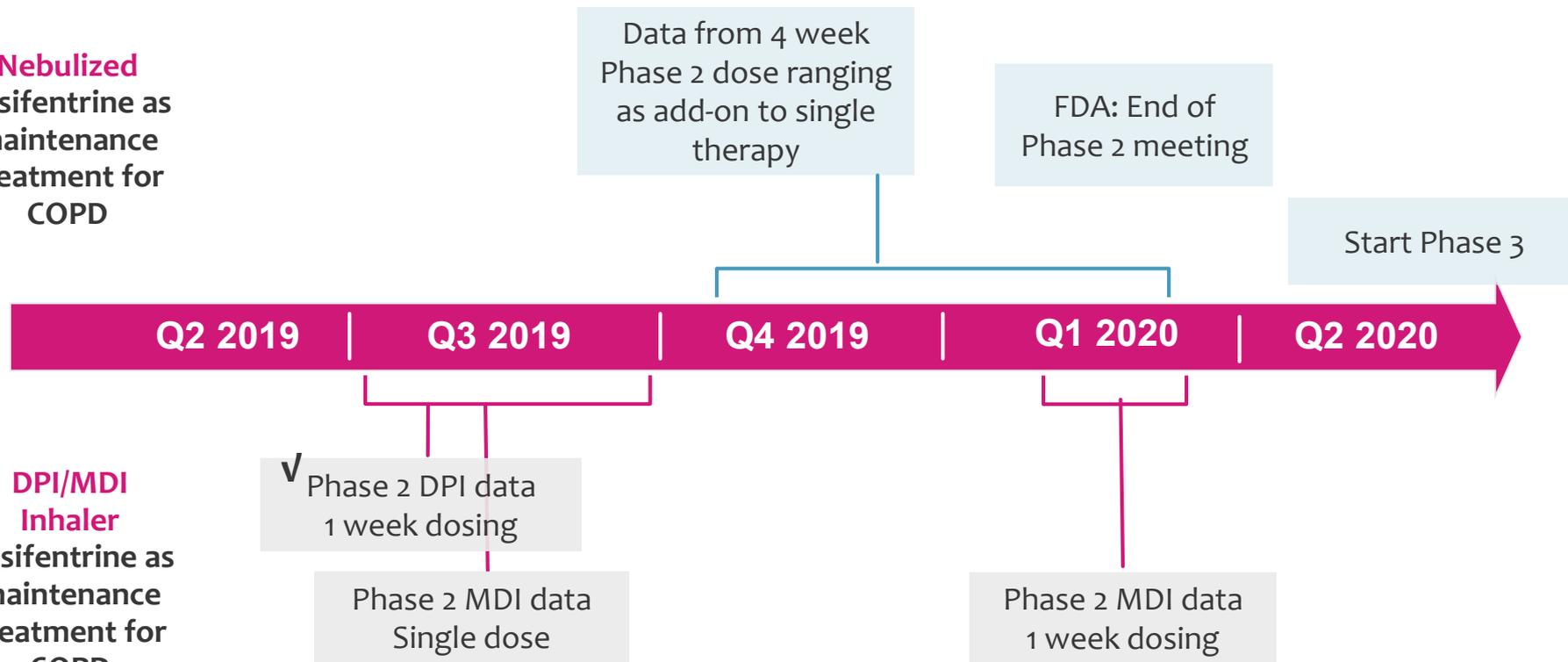
2019: Multiple significant milestones as ensifentrine advances towards Phase 3 in 2020



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**Nebulized
ensifentrine as
maintenance
treatment for
COPD**

**DPI/MDI
Inhaler
ensifentrine as
maintenance
treatment for
COPD**



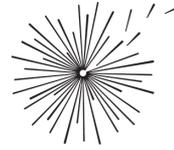
**Simple Phase 3 trial design, similar to Phase 2b studies,
to increase likelihood of regulatory success**

Ensifentrine: Promising novel treatment for patients with COPD



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- ✓ First-in-class PDE₃/4 inhibitor with **bronchodilator** and **anti-inflammatory** effects, **rapid onset of action** and **well tolerated**
 - ✓ Reduces **residual volume/air trapping**
- ✓ **Improves symptoms** in moderate to severe, symptomatic COPD patients on twice daily dosing
- ✓ **Novel Mode of Action improves lung function** in patients **poorly responsive to currently available bronchodilators**
 - ✓ **Targeting FDA End of Phase 2 Meeting 1H 2020**
- ✓ **Subsequently, advancing nebulized ensifentrine into Phase 3 trials** in patients symptomatic despite using standard COPD medications



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Thank you