

**Verona Pharma**



**Top-Line Data from Phase 2a Clinical  
Trial in COPD with RPL554 Dosed in  
Addition to Tiotropium (Spiriva®)**

**September 7, 2017**



# RPL554 Observed to Produce Additional Bronchodilation when Combined with tiotropium (Spiriva) in Moderate to Severe COPD

## Trial Overview

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- **Trial Description:** Double blind, randomized, three way cross-over, Phase 2a trial to assess the improvement in lung function, as measured by FEV<sub>1</sub> of RPL554 or placebo as an add-on treatment to tiotropium
- **Patient Population:** 30 moderate-to-severe COPD patients, males and females, age 47-73
- **Location:** 1 / United Kingdom
- **RPL554 Dosage:** Three days of twice daily dosing with RPL554 1.5 mg, 6 mg, or placebo as an add-on treatment to once daily tiotropium. Last doses in the morning of Day 3.

## Key Findings on Day 3 of treatment

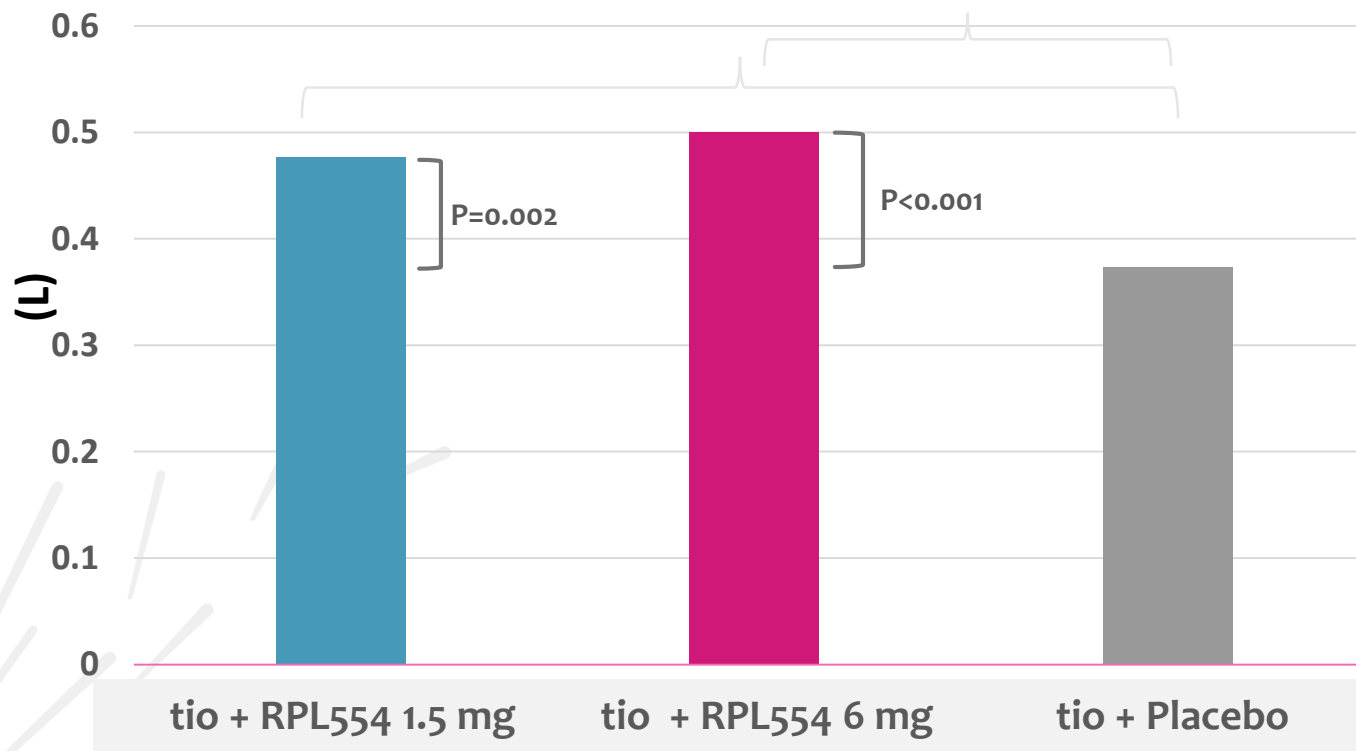
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- RPL554 improved peak FEV<sub>1</sub>, as compared to tiotropium alone, by a clinically and statistically significant amount
- RPL554 produced an additive and significant reduction in residual lung volume, functional residual capacity and airway resistance as compared to placebo
- RPL554 on top of tiotropium significantly reduced the median time to onset of bronchodilation compared to tiotropium alone.
- RPL554 was well tolerated at both 1.5 mg and 6 mg when dosed as an add-on treatment to tiotropium

# RPL554 Provides a Significant Additional Bronchodilator Response when Inhaled on Top of Tiotropium

## Peak Change from Baseline in FEV<sub>1</sub>(L) on Day 3

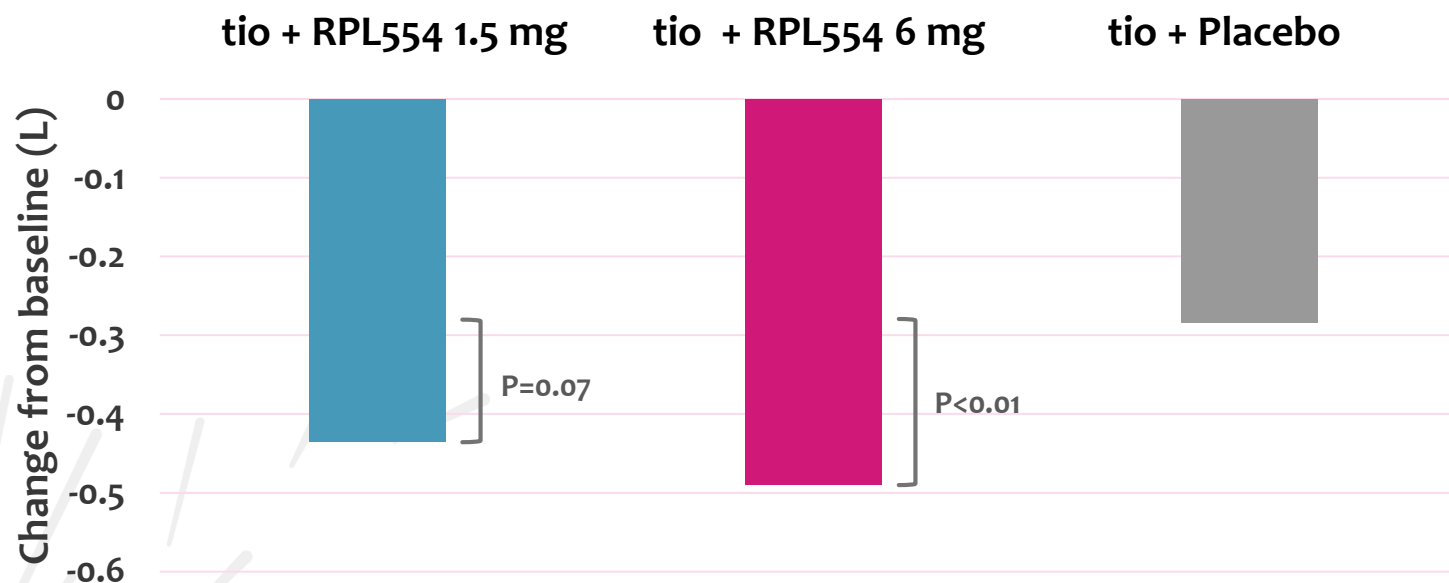
N=27-28



# RPL554 Causes Marked Reduction in Hyperinflation, Residual Volume (RV, air trapping) as Compared to Tiotropium Alone

## Reduction in Hyperinflation (L) on Day 3

N=27-28

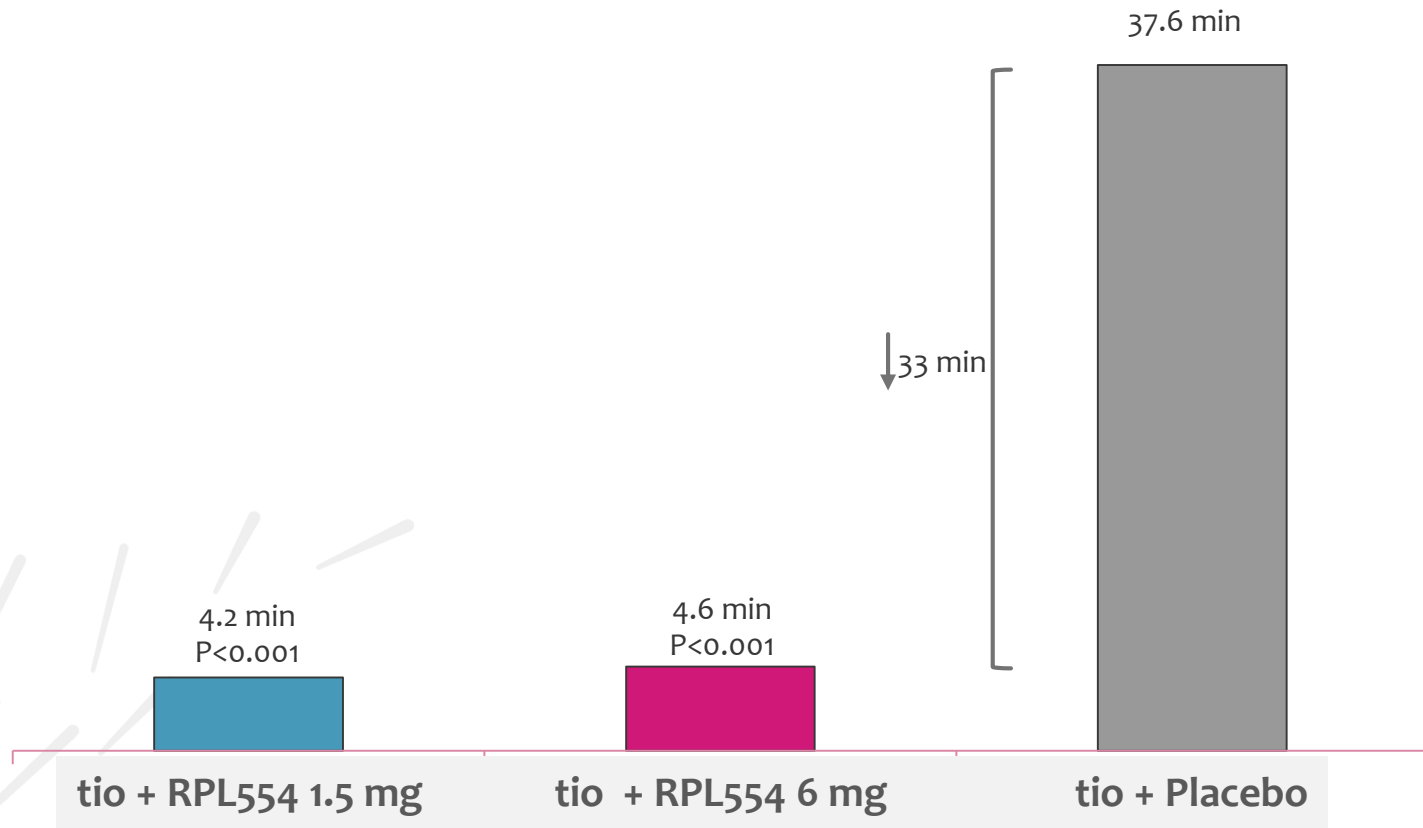


Reduction of hyperinflation is typically correlated with improvement of shortness of breath

# RPL554 Combination Increases Speed of Onset of Bronchodilator Effect

Median Time to Onset ( $\geq 10\%$  improvement in FEV<sub>1</sub> ; mins) on Day 3

N=27-28



Reinforces the potential of RPL554 in treating acute exacerbations of COPD