

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 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 15, 2011**

**THERAVANCE, INC.**

(Exact Name of Registrant as Specified in its Charter)

**Delaware**

(State or Other Jurisdiction of  
Incorporation)

**000-30319**

(Commission File Number)

**94-3265960**

(I.R.S. Employer Identification Number)

**901 Gateway Boulevard  
South San Francisco, California 94080  
(650) 808-6000**

(Addresses, including zip code, and telephone numbers, including area code, of principal executive offices)

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))

**Item 8.01 Other Events.**

On May 15, 2011, at the American Thoracic Society International Conference in Denver, Colorado, GlaxoSmithKline plc presented a poster presentation on a Phase 2b study: Fluticasone Furoate (FF), a Novel Once-Daily Inhaled Corticosteroid (ICS), Demonstrates Efficacy in Asthma. Fluticasone Furoate is the ICS in RELOVAIR™. RELOVAIR™ is an investigational product being developed under the LABA collaboration between GSK and Theravance, Inc. as a once-daily medicine that combines FF and Vilanterol Trifenatate (VI, a long-acting beta<sub>2</sub> agonist or LABA) for the treatment of patients with chronic obstructive pulmonary disease or asthma. The poster presentation is filed as Exhibit 99.1 to this report and is incorporated herein by reference.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

<u>Exhibit</u>	<u>Description</u>
Exhibit 99.1	Fluticasone Furoate (FF), a Novel Once-Daily Inhaled Corticosteroid (ICS), Demonstrates Efficacy in Asthma

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.

**THERAVANCE, INC.**

Date: May 16, 2011

By: /s/ Michael W. Aguiar

**Michael W. Aguiar**  
**Chief Financial Officer**

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**EXHIBIT INDEX**

<u>Exhibit</u>	<u>Description</u>
Exhibit 99.1	Fluticasone Furoate (FF), a Novel Once-Daily Inhaled Corticosteroid (ICS), Demonstrates Efficacy in Asthma

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**Fluticasone furoate (FF), a novel once-daily inhaled corticosteroid (ICS),  
demonstrates efficacy in asthma**

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## INTRODUCTION

- ICSs are effective controller medications for asthma,(1),(2) typically dosed twice daily.
- Once-daily dosing can improve adherence to therapy versus twice-daily dosing(3) and therefore may improve outcomes in patients with uncontrolled asthma.(4),(5)
- FF is a novel ICS still active at 24h being developed for use as a monotherapy for asthma and in combination with a once-daily long-acting beta<sub>2</sub> agonist (LABA), vilanterol trifenate (VI, GW642444M), for asthma and COPD.

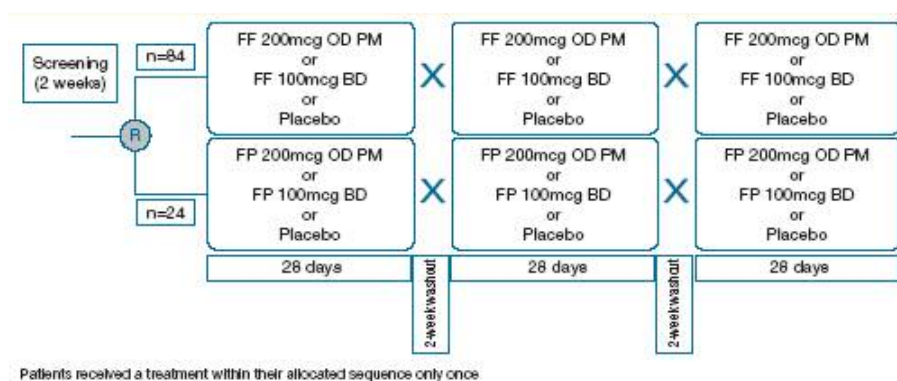
## OBJECTIVES

- To compare efficacy/safety of FF 200mcg once daily with FF 100mcg twice daily in patients with asthma (aged  $\geq 12$  years), uncontrolled on a short-acting beta<sub>2</sub> agonist (SABA) with or without a non-corticosteroid controller.
- Assess for non-inferiority of pre-dose FEV<sub>1</sub> of FF 200mcg once daily versus FF 100mcg twice daily.

## METHODS

- Phase 2b, multicenter, randomized, placebo-controlled, three-way crossover study.
- Eligible patients had persistent asthma,(2) FEV<sub>1</sub> 40–85% predicted normal value, FEV<sub>1</sub> reversibility of  $\geq 12\%$  and  $\geq 200$ mL following albuterol, had not taken any ICS within 8 weeks of Visit 1 and were using a permitted non-corticosteroid controller and/or a SABA for  $\geq 3$  months preceding Visit 1.
- Patients were randomly assigned 7:2 to either one of six sequences containing FF or one of six sequences containing fluticasone propionate (FP) (included for assay sensitivity) – Figure 1 shows the overall study design.
- FF and FP 200mcg were administered once daily PM (placebo given AM) and FF and FP 100mcg twice daily AM and PM.
- FF was given via a novel single-step activation dry powder inhaler and FP via DISKUS™.

**Figure 1. Overall study design.**



## Efficacy and safety measures

- Primary endpoint: pre-dose, pre-rescue bronchodilator FEV<sub>1</sub> on the evening of Day 28 of the treatment period and analyzed using mixed effects analysis of covariance (ANCOVA) with fixed effects of treatment, period, sex and age. Subject was fitted as a random effect and the period baseline measurement was included as part of a bivariate response.
- Safety assessments: adverse events (AEs; defined using the MedDRA dictionary, Version 11), laboratory tests (biochemistry, hematologic and urinalysis), vital signs and oropharyngeal examination, and change in 24h urinary cortisol (UC) excretion between baseline and the end of each 28-day treatment period.

## RESULTS

- One hundred and ninety patients randomized: 147 to FF sequence and 43 to FP sequence.
- Thirteen patients treated with FF and two treated with FP did not complete the study; of these, five treated with FF and one with FP withdrew due to lack of efficacy.
- Table 1 shows demographic and baseline clinical characteristics in the intent-to-treat (ITT) population.

**Table 1. Demographic and baseline clinical characteristics (ITT population).**

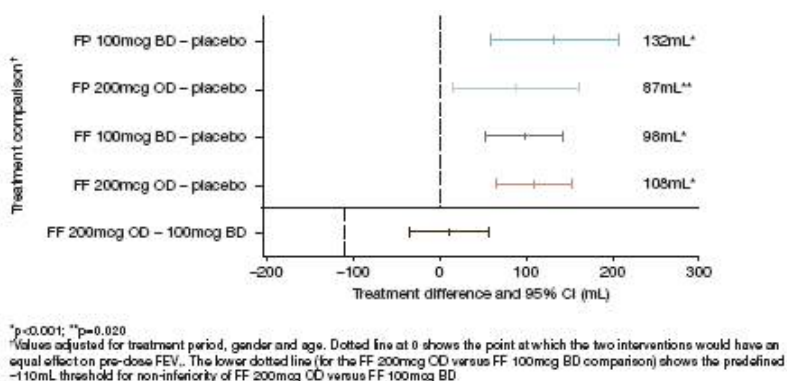
	FF sequences (n=147)	FP sequences (n=43)	Total (n=190)
Age (years)	31.4 (15.30)	35.2 (16.03)	32.3 (15.51)
Range	12–68	12–76	12–76
Females, n (%)	87 (59)	21 (49)	108 (57)
Race (%)			
White	90 (61)	22 (51)	112 (59)
African American/African	50 (34)	20 (47)	70 (37)
Other	7 (5)	1 (2)	8 (4)
History of atopy, n (%)	93 (63)	27 (63)	120 (63)
Lung function at screening			
Percent predicted FEV <sub>1</sub> (%)	69.56 (9.878)	65.82 (10.450)	68.71 (10.105)
Reversibility of FEV <sub>1</sub> (%)	27.20 (13.667)	27.52 (16.449)	27.27 (14.298)

Values are mean (SD), unless stated otherwise.

### Efficacy

- Pre-dose FEV<sub>1</sub> at Day 28 in the ITT population increased significantly from baseline compared with placebo in the four active treatment groups (Figure 2).
- FF 200mcg once daily was not inferior to FF 100mcg twice daily; the mean difference in FEV<sub>1</sub> change from baseline between the FF 200mcg once-daily and FF 100mcg twice-daily dosage regimens was 11mL for the ITT population (Figure 2) and 0mL for the per-protocol population (defined as patients with at least one treatment period without a deviation).
- The results of the comparative FP regimens demonstrated that the study had assay sensitivity to differentiate between once-daily and twice-daily dosing.

**Figure 2. Adjusted<sup>†</sup> treatment differences in pre-dose FEV<sub>1</sub> at Day 28 (ITT population).**



### Safety

- All FF and FP regimens were well tolerated with incidence of AEs similar to placebo (Table 2).
- Three drug-related AEs: headache and dry throat (FF 100mcg twice daily), tachycardia (FP 200mcg once-daily).
- No serious AEs reported; no AEs led to study withdrawal.
- Asthma exacerbations occurred in five (3%) patients on placebo and one (<1%) patient on FF 200mcg once daily; none required hospitalization.

**Table 2. AEs reported during treatment by at least 1% of patients (ITT population).**

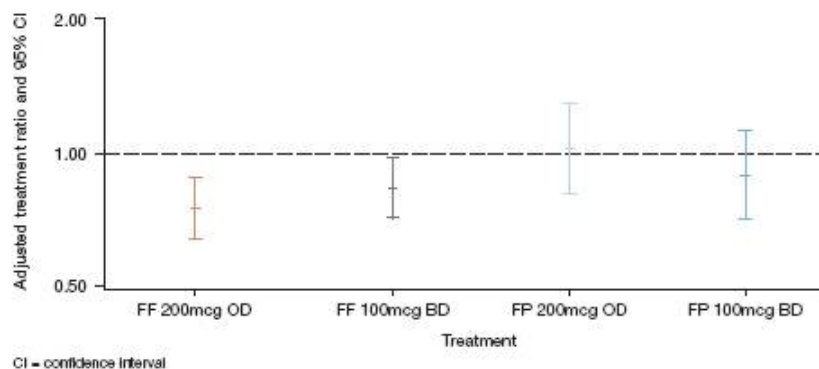
Number of patients reporting event, n (%)	Placebo (n=187)	FF 200mcg OD (n=140)	FF 100mcg BD (n=142)	FP 200mcg OD (n=42)	FP 100mcg BD (n=43)
Any on-treatment AE	26 (14)	22 (16)	26 (18)	2 (5)	3 (7)
URTI	2 (1)	7 (5)	7 (5)	0	0
Sinusitis	1 (<1)	1 (<1)	2 (1)	0	0
Pharyngitis	2 (1)	1 (<1)	0	0	0
Cellulitis	2 (1)	0	0	0	0
Tooth infection	0	2 (1)	0	0	0
Cough	0	0	2 (1)	0	0
Headache	2 (1)	2 (1)	0	0	0

Tension headache	0	2 (1)	0	0	0
Any drug-related AE	0	0	2 (1)	1 (2)	0

URTI = upper respiratory tract infection

- Twenty-four-hour UC excretion at Day 28 was significantly lower in the two FF groups (but not FP groups) versus placebo (Figure 3).
- There were no clinically important changes in any laboratory test or vital signs during any treatment period.

Figure 3. Adjusted treatment ratios for 24-h UC excretion at Day 28 (UC population; n=170 patients).



## CONCLUSIONS

- For the same total daily dose, FF 200mcg once daily in the evening is non-inferior to FF 100mcg twice daily.
- Four weeks' treatment with FF given as a 200mcg once-daily dose has superior efficacy and similar tolerability to placebo in patients with asthma.
- Although a reduction in UC excretion with FF was observed in this study, other studies with FF have not shown a similar effect on UC at the same FF doses (see poster number C24).
- Data support the use of FF as a once-daily treatment in asthma.

## REFERENCES

- (1) GINA. Global Strategy for Asthma Management and Prevention - updated 2009. [www.ginasthma.org](http://www.ginasthma.org).
- (2) NIH. Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. Full Report 2007. NIH Publication No. 07-4051. <http://www.nhlbi.nih.gov>.
- (3) Price D, et al. BMC Pulm Med 2010;10:1.
- (4) Smith LA, et al. Pediatrics 2008;122:760-9.
- (5) Stanford RH, et al. J Asthma 2010;47:257-62.

## ACKNOWLEDGMENTS

- This study was sponsored by GlaxoSmithKline (ClinicalTrials.gov: NCT00766090; protocol number FFA112202).
- The lead author, Ashley Woodcock, has served as consultant to Almirall, AstraZeneca, Chiesi, GlaxoSmithKline, Merck Sharpe and Dohme, Novartis and Schering Plough; and has received research grants and travel expenses for attendance at ATS and ERS meetings from GlaxoSmithKline.
- Editorial support (in the form of writing assistance, assembling tables and figures, collating author comments, grammatical editing and referencing) was provided by Lisa Moore at Gardiner-Caldwell Communications and was funded by GlaxoSmithKline.



Presented at the Annual Conference of the American Thoracic Society (ATS), Denver, Colorado, USA, May 13-18, 2011