Theravance Biopharma®

Medicines That Make a Difference®

Study 0170 (REDWOOD) Ampreloxetine Phase 3 Results

April 4, 2022

Forward-looking statements

Under the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995, the company cautions investors that any forward-looking statements or projections made by the company are subject to risks and uncertainties that may cause actual results to differ materially from the forward-looking statements or projections.

Examples of forward-looking statements in this presentation may include the Company's goals, designs, strategies, plans and objectives, the impact of the Company's restructuring plan, ability to provide value to shareholders, the Company's regulatory strategies and timing of clinical studies (including the data therefrom), the potential characteristics, benefits and mechanisms of action of the Company's product and product candidates, the Company's expectations for product candidates through development and the market for products being commercialized, the Company's expectations regarding its allocation of resources, potential regulatory actions and commercialization (including differentiation from other products or potential products and addressable market), product sales or profit share revenue and the Company's expectations for its expenses, excluding share-based compensation and other financial results.

The Company's forward-looking statements are based on the estimates and assumptions of management as of the date of this presentation and are subject to risks and uncertainties that may cause the actual results to be materially different than those projected, such as risks related to the impacts on the COVID-19 global pandemic on our business, additional future analysis of the data resulting from our clinical trial(s), delays or difficulties in commencing, enrolling or completing clinical studies, the potential that results from clinical or non-clinical studies indicate the Company's compounds, products or product candidates are unsafe, ineffective or not differentiated, risks of decisions from regulatory authorities that are unfavorable to the Company, the feasibility of undertaking future clinical trials based on policies and feedback from regulatory authorities, dependence on third parties to conduct clinical studies, delays or failure to achieve and maintain regulatory approvals for product candidates, risks of collaborating with or relying on third parties to discover, develop, manufacture and commercialize products, and risks associated with establishing and maintaining sales, marketing and distribution capabilities with appropriate technical expertise and supporting infrastructure, ability to retain key personnel, the impact of the Company's restructuring actions on its employees, partners and others.

Other risks affecting Theravance Biopharma are in the company's Form 10-K filed with the SEC on February 28, 2022, and other periodic reports filed with the SEC.

Phase 3 program overview

Phase 3 Registrational Program

Study 0169: 4 weeks

Randomized, double-blind, placebo controlled, parallel group

All patients who complete 0169 may enroll into 0170

+ de novo

SEQUOIA
An ampreloxetine study for snOH

Study 0170*: 22 weeks

Randomized 16-week open label, 6-week randomized, double-blind, placebo-controlled withdrawal

All patients who complete 0170 may enroll into 0171

REDWOOD
An ampreloxetine study for snOH

Extension Study

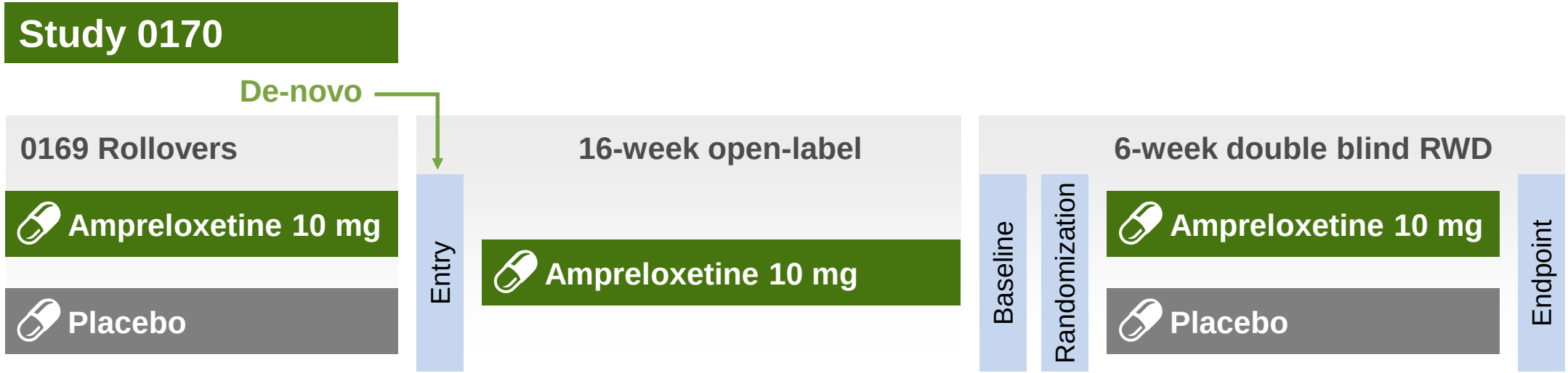
Study 0171*: 3.5 years

Long-term, open-label extension study

OAK
An ampreloxetine study for snOH

*After Study 0169 did not meet its primary endpoint, the Company took actions to close out the ongoing clinical program; study 0170 was more than 80% enrolled at this point.

Primary Endpoint: Worsening of OSHA#1 and PGI-S (Treatment Failure)

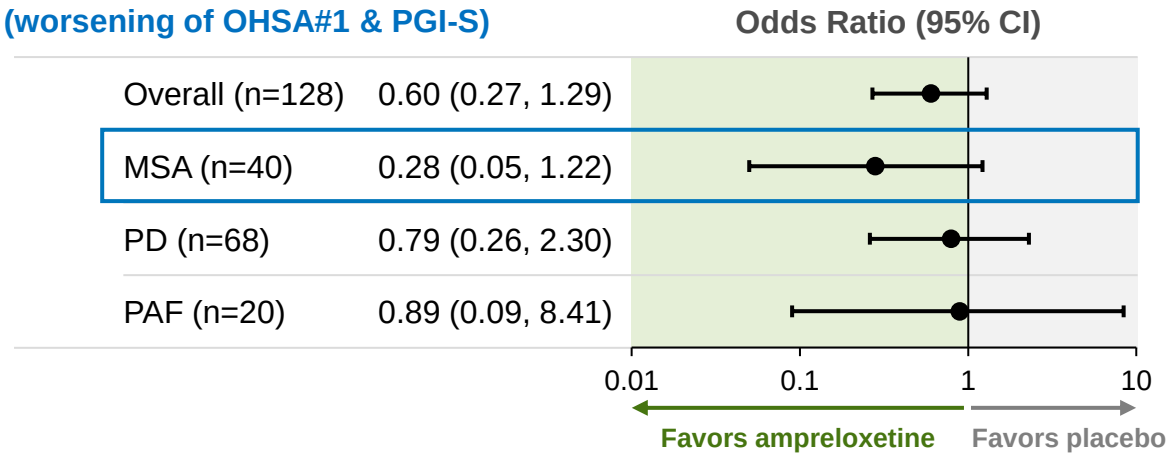


Disease type	Placebo n=64	Ampreloxetine n=64	Total n=128* (%)
Multiple system atrophy (MSA)	20	20	40 (31%)
Parkinson's disease (PD)	34	34	68 (53%)
Pure autonomic failure (PAF)	10	10	20 (16%)

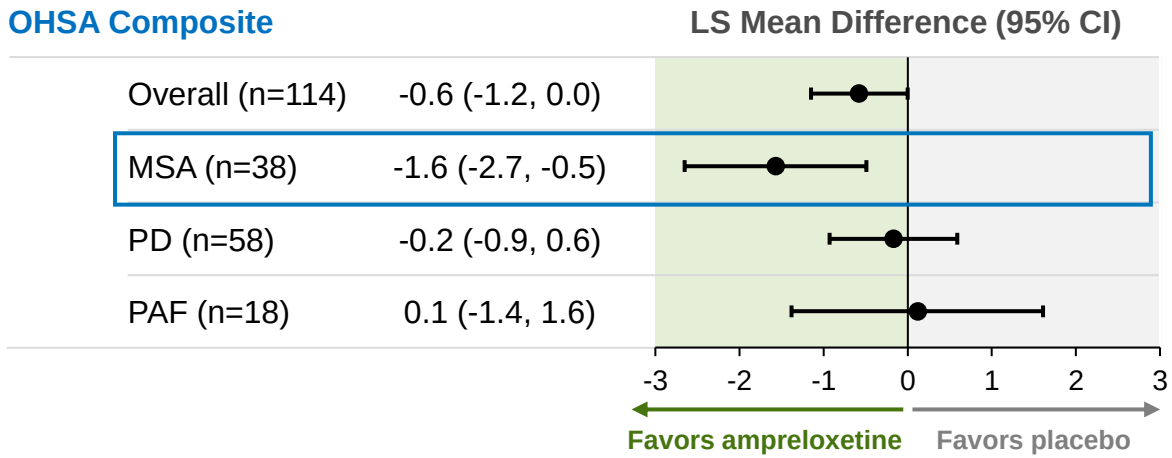
NCT03829657
*n=154 planned; n=number of subjects enrolled in the randomized withdrawal period.
OHSA, Orthostatic Hypotension Symptom Assessment; PGI-S, Patient Global Impression of Severity; RWD, randomized withdrawal design.

Pre-specified Subgroup Analyses: Patient Reported Outcomes

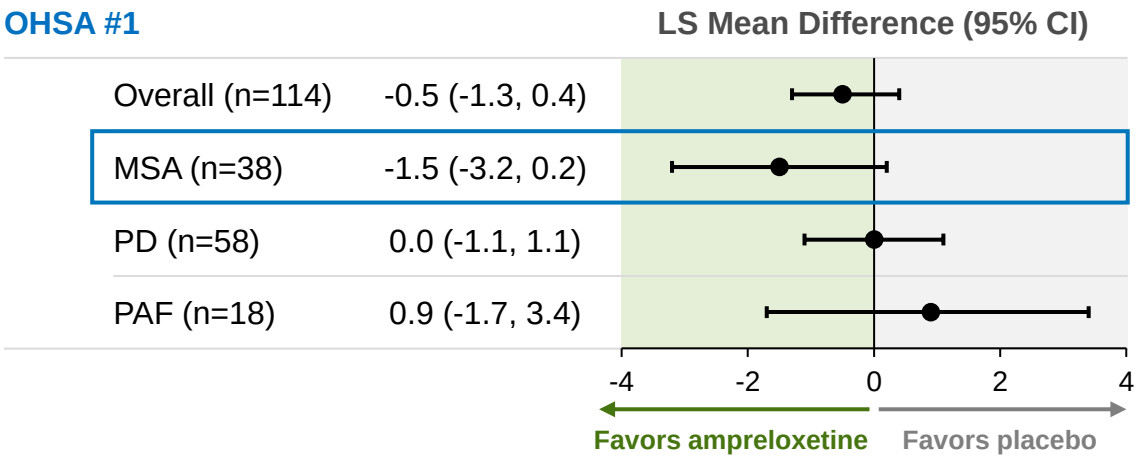
Treatment Failure (worsening of OHSA#1 & PGI-S)



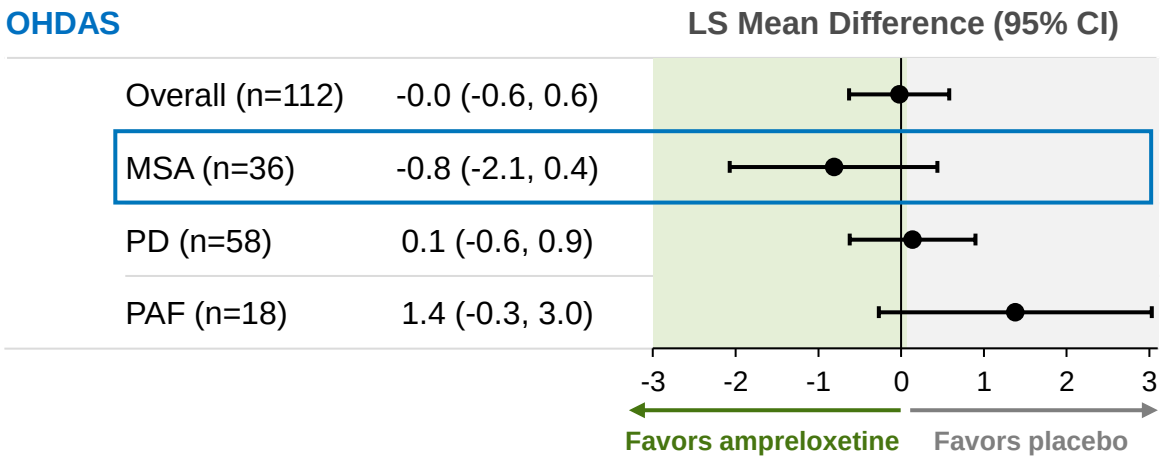
OHSA Composite



OHSA #1



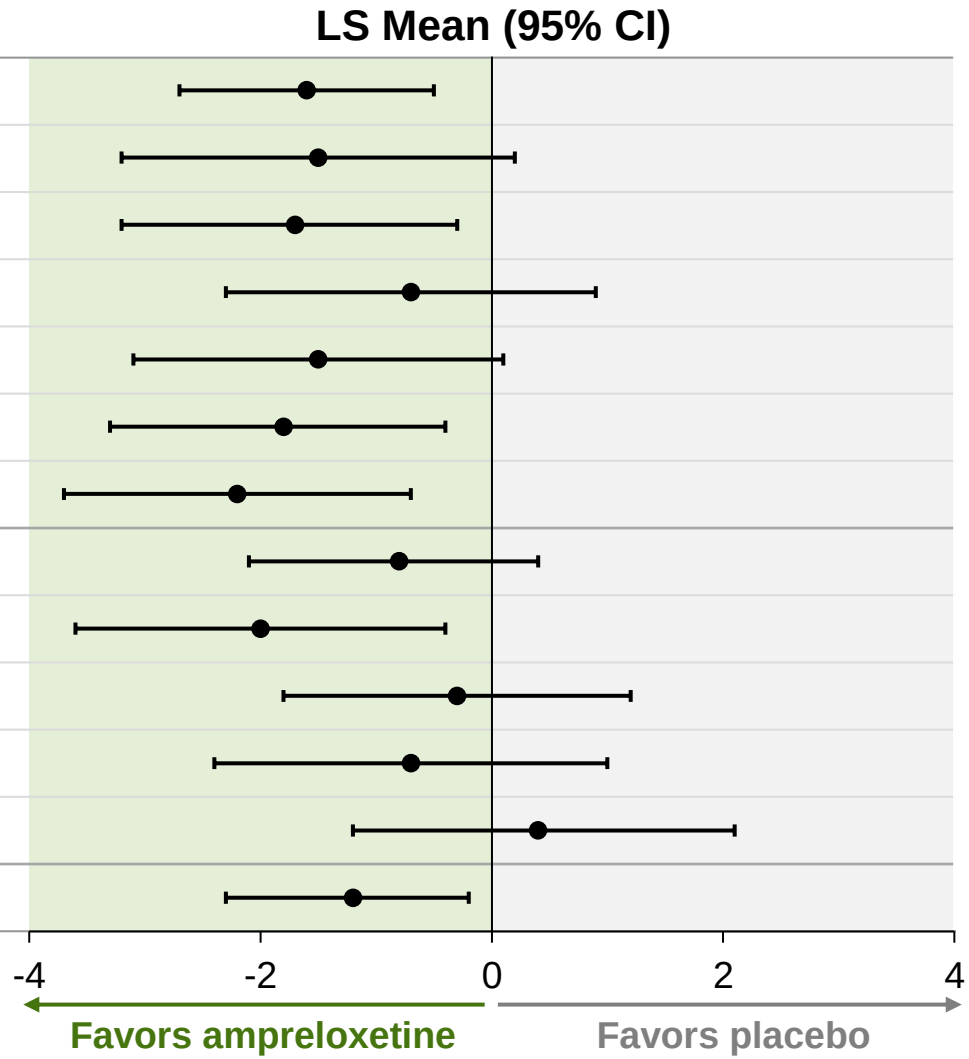
OHDAS



The number of analyzable patients differ between analyses due to missing data. Missing data is imputed as treatment failure for the primary endpoint. Missing data for OHSA composite, OHSA#1 and OHDAS composite scores are assumed missing at random and analyzed through a mixed model repeated measures analysis.
n=128; n=number of subjects enrolled in the randomized withdrawal period.
CI, confidence interval; MSA, multiple system atrophy; OHSA, Orthostatic Hypotension Symptom Assessment; PAF, pure autonomic failure; PD, Parkinson's disease; PGI-S, Patient Global Impression of Severity.

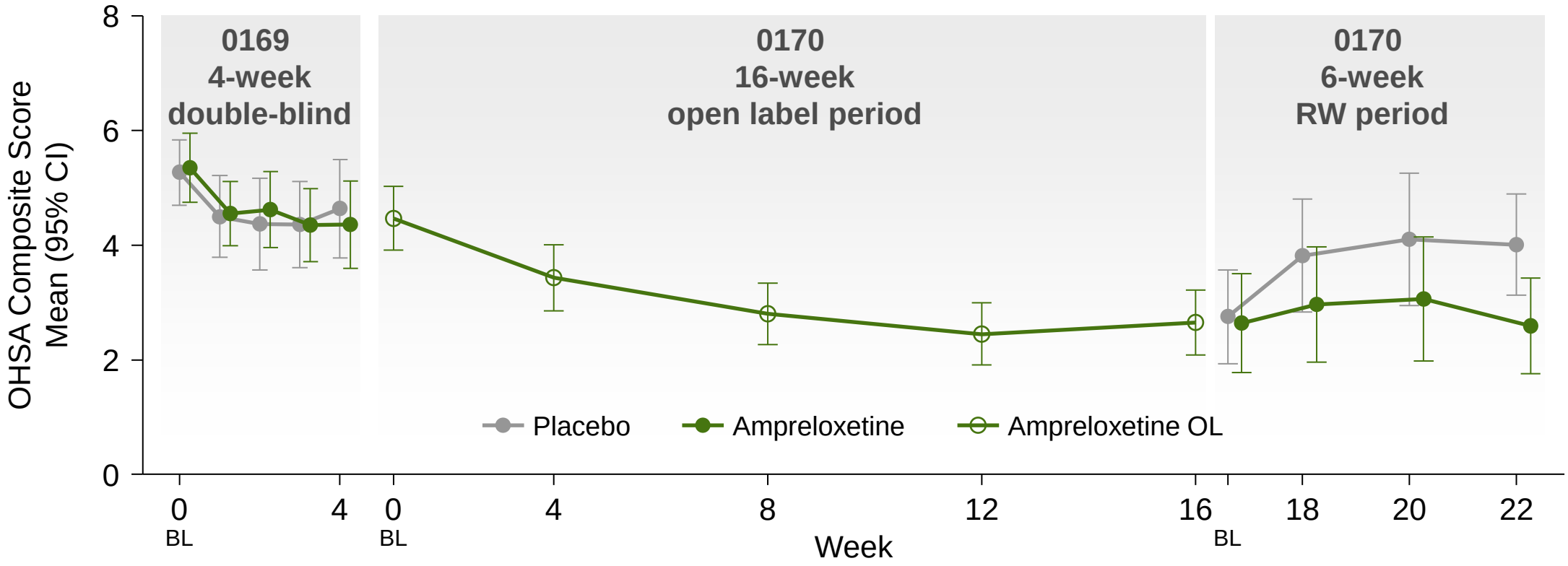
OHQ questionnaire composite scores and individual items for MSA patients

		LS Mean (95% CI)
	Symptom composite score	-1.6 (-2.7, -0.5)
	Dizziness	-1.5 (-3.2, 0.2)
	Vision	-1.7 (-3.2, -0.3)
OHSA	Weakness	-0.7 (-2.3, 0.9)
	Fatigue	-1.5 (-3.1, 0.1)
	Trouble concentrating	-1.8 (-3.3, -0.4)
	Head/neck discomfort	-2.2 (-3.7, -0.7)
	Daily activities composite score	-0.8 (-2.1, 0.4)
	Standing short time	-2.0 (-3.6, -0.4)
OHDAS	Standing long time	-0.3 (-1.8, 1.2)
	Walking short time	-0.7 (-2.4, 1.0)
	Walking long time	0.4 (-1.2, 2.1)
OHQ composite score		-1.2 (-2.3, -0.2)



CI, confidence interval; MSA, multiple system atrophy; OHDAS, orthostatic hypotension daily activity scale; OHQ, orthostatic hypotension questionnaire; OHSA, Orthostatic Hypotension Symptom Assessment.
Individual item score analyses are post-hoc, except for dizziness.

Longitudinal analysis of OHSA composite score for MSA patients



Placebo, n=	33	33	33	31	31					20	19	20	18
Ampreloxetine, n=	34	33	33	33	32	64	60	51	44	42	20	17	19	20

CI, confidence interval; MSA, multiple system atrophy; OHSA, Orthostatic Hypotension Symptom Assessment; OL, open-label; RW, randomized withdrawal.

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Overall safety summary Study 0170

16-week open-label

Ampreloxetine 10 mg (n=200)

- 53% TEAEs (n=105), majority mild to moderate
- 8% SAEs (n=16), none reported as related to ampreloxetine
  - 5 deaths
- 3 AEs of special interest:
  - Supine hypertension (n=1)
  - Myocardial infarction (n=1)
  - Atrial arrythmia (n=1)

Baseline

Randomization

6-week double blind RWD

Ampreloxetine 10 mg (n=64)

- SAEs: 2 of 4 events reported as study drug-related
  - 2 Deaths (1 unrelated,1 unknown and imputed as related)

Placebo (n=64)

- SAEs: 1 of 2 events was reported as study drug related

- TEAEs were similar for ampreloxetine and placebo groups, majority were mild to moderate
- No AEs of special interest
- No clinically significant difference between treatment groups in:
  - Laboratory values
  - ECG
  - Ambulatory blood pressure monitoring
  - Vital signs

AE, adverse event; ECG, electrocardiogram; RWD, randomized withdrawal design; SAE, serious adverse event; TEAE, treatment emergent adverse events.

Overall ampreloxetine summary

Study 0170

- Results show benefit in MSA patients
- No indication of worsening of supine hypertension or emergence of any new safety signal
- Consistent feedback from KOLs about the strength of data in MSA

Ampreloxetine

- Novel chemical entity, discovered and developed at Theravance Biopharma
- Potent and high-affinity norepinephrine reuptake inhibitor
- Orally bioavailable with QD dosing
- Mechanism of action consistent with durability of effect
- Patent protection until 2037 in US
- Comprehensive nonclinical and clinical pharmacology program completed
- Evaluated in >800 patients and healthy subjects in clinical studies of fibromyalgia, ADHD and symptomatic nOH

ADHD, attention deficit hyperactivity disorder; MSA, multiple system atrophy; nOH, neurogenic orthostatic hypotension; QD, once-daily.