

# Design of a Global Phase 3, Randomized, Placebo-Controlled Trial of a Fixed-Dose Sodium Phenylbutyrate and Taurursodiol Coformulation in Amyotrophic Lateral Sclerosis

Sabrina Paganoni, MD, PhD<sup>1,2</sup>; Leonard H. van den Berg, MD, PhD<sup>3</sup>; Ruben P.A. van Eijk, MD, PhD<sup>3,4</sup>; Ammar Al-Chalabi, PhD, FRCP, DipStat<sup>5,6</sup>; Jinsy Andrews, MD, MSc<sup>7</sup>; Adriano Chiò, MD<sup>8,9</sup>; Philippe Corcia, MD, PhD<sup>10</sup>; Merit Cudkovic, MD<sup>1</sup>; Albert Christian Ludolph, MD<sup>11</sup>; Christopher McDermott, PhD, FRCP<sup>12</sup>; Mabelle Manuel, PhD<sup>13</sup>; Jamie Timmons, MD<sup>13</sup>; Erin Whitney, BS, MBA<sup>13</sup>; Patrick Yeramian, MD, MBA<sup>13</sup>

<sup>1</sup>Sean M. Healey and AMG Center for ALS & the Neurological Clinical Research Institute, Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA; <sup>2</sup>Spaulding Rehabilitation Hospital, Harvard Medical School, Boston, MA, USA; <sup>3</sup>Department of Neurology, UMC Utrecht Brain Center, University Medical Center Utrecht, Utrecht, the Netherlands; <sup>4</sup>Biostatistics & Research Support, Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht, the Netherlands; <sup>5</sup>Maurice Wohl Clinical Neuroscience Institute, King's College London, Department of Basic and Clinical Neuroscience, London, United Kingdom; <sup>6</sup>Department of Neurology, King's College Hospital, London, UK; <sup>7</sup>Department of Neurology, Columbia University, New York, NY, USA; <sup>8</sup>Rita Levi Montalcini Department of Neuroscience, University of Turin, Turin, Italy; <sup>9</sup>Azienda Ospedaliero-Universitaria Città della Salute e della Scienza di Turin, Turin, Italy; <sup>10</sup>ALS Center, CHU Tours, Tours, France; <sup>11</sup>Department of Neurology, University of Ulm, Ulm, Germany; <sup>12</sup>Sheffield Institute of Translational Neuroscience, University of Sheffield, Sheffield, UK; <sup>13</sup>Amylyx Pharmaceuticals, Inc., Cambridge, MA, USA

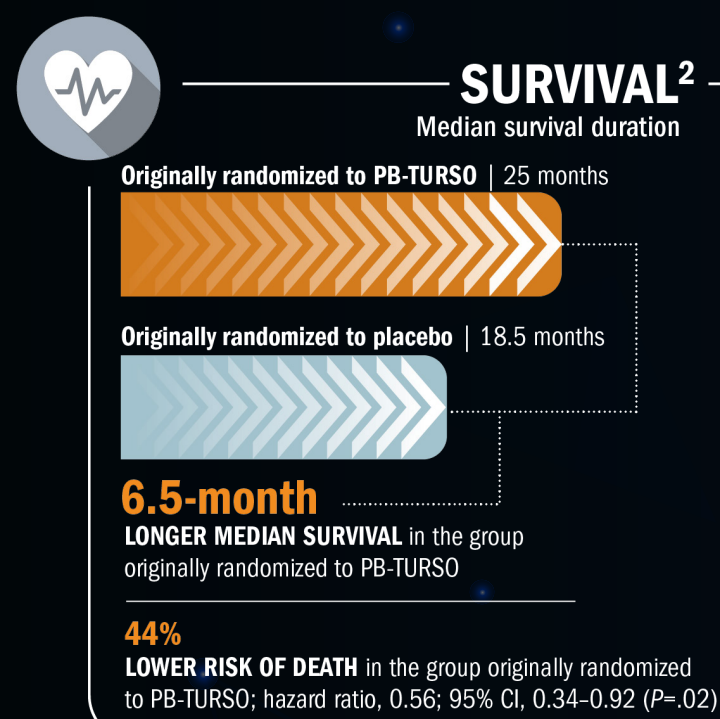
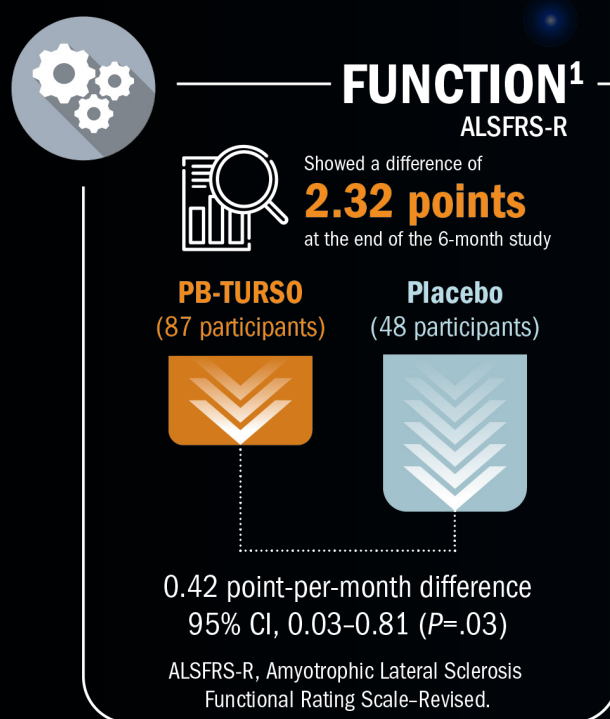
## BACKGROUND AND OBJECTIVES

Phase 3 study A35-004 (PHOENIX) will build on the findings of phase 2 study AMX-3500 (CENTAUR)

AMX0035, or PB/TURSO, is an oral, fixed-dose coformulation of sodium phenylbutyrate (PB) and taurursodiol (TURSO; also known as ursodoxicoltaurine)<sup>1</sup>

### CENTAUR

CENTAUR was a phase 2, multicenter study in adults with ALS encompassing a 6-month randomized, placebo-controlled phase and an open-label, long-term follow-up phase<sup>1</sup>



### SAFETY<sup>1</sup>

While there were similar rates of adverse events and discontinuations recorded in the PB/TURSO and placebo groups during the 24-week randomized phase, gastrointestinal events occurred with greater frequency (≥2%) in the PB/TURSO group

# Study A35-004 (PHOENIX)

Phase 3 Trial to Evaluate the Safety and Efficacy of Sodium Phenylbutyrate - Taurursodiol (ursodoxicoltaurine) in ALS

Broader, larger, international population of people with amyotrophic lateral sclerosis (ALS)

~ 65 Treatment Research Initiative to Cure ALS (TRICALS) and Northeast Amyotrophic Lateral Sclerosis Consortium (NEALS) sites in Europe and USA

600 participants



### Key Entry Criteria

CENTAUR	PHOENIX
Definite ALS, El Escorial criteria	Definite ALS or Clinically probable ALS, El Escorial criteria
<18 months from symptom onset	<24 months from symptom onset
Slow vital capacity (SVC) >60%	SVC ≥55%
Riluzole/edaravone use permitted	Riluzole/edaravone use permitted

## PHOENIX

### Primary Study Objectives

- To determine the **safety** and **tolerability** of PB/TURSO
- To assess the impact of PB/TURSO treatment compared to placebo on **disease progression over 48 weeks** based on change from baseline of ALSFRS-R and survival<sup>3</sup>

### Telemedicine-friendly study design

#### Safety

- Incidence and severity of adverse events and serious adverse events
- Incidence of abnormalities in clinical laboratory assessments
- Withdrawal from the trial

#### Primary Efficacy Outcome

- Joint assessment of ALSFRS-R total score progression over 48 weeks and survival<sup>3</sup>

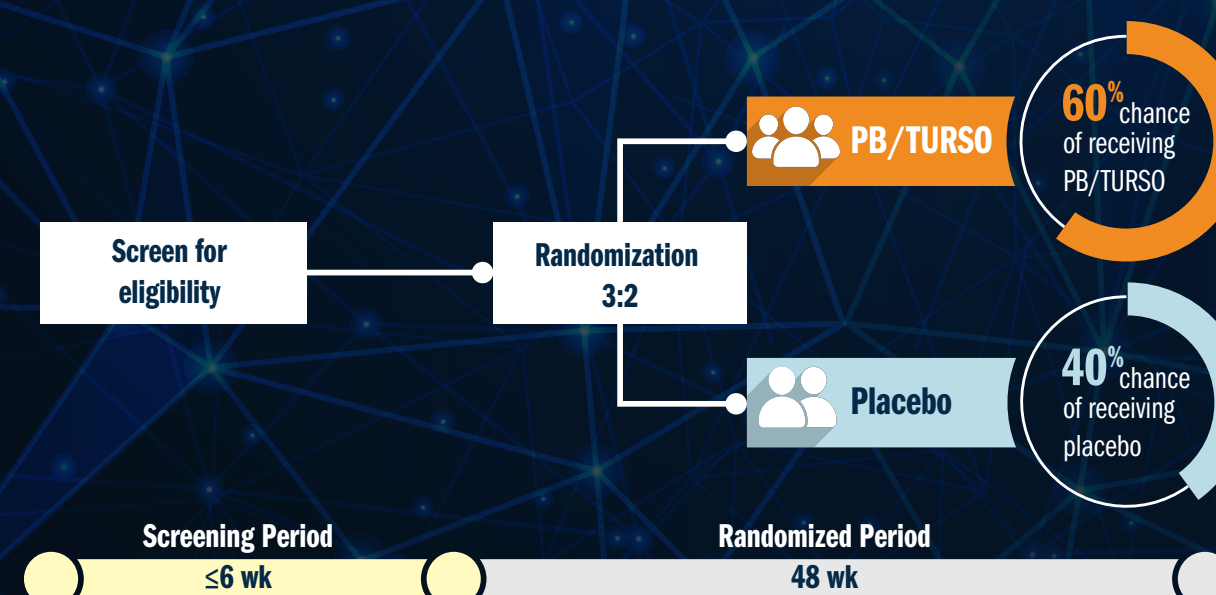
#### Secondary Efficacy Outcomes

- SVC
- Patient-reported outcomes (40-Item ALS Assessment Questionnaire, EuroQol 5-Dimension, and EuroQol Visual Analogue Scale)
- Time to transition through King's and MiToS stages
- Time to death, tracheostomy, or permanent assisted ventilation (PAV)<sup>a</sup>
- All-cause mortality will be assessed beyond the planned 48-week follow-up

#### Exploratory Outcomes

- Caregiver burden
- Plasma biomarkers of neuron damage and neuroinflammation

Trial to begin recruiting in Q3 2021



<sup>a</sup>PAV (>22 hours daily for >7 days)

#### References

1. Paganoni S, et al. *N Engl J Med*. 2020;383(10):919-930. 2. Paganoni S, et al. *Muscle Nerve*. 2021;63(1):31-39. 3. van Eijk RPA, et al. *Clin Epidemiol*. 2018;10:333-341.

#### Acknowledgements

The authors would like to thank TRICALS and NEALS as well as people with ALS, caregivers, and advocates for providing feedback and advice on the study design.

Medical writing support for this presentation was provided by PRECISIONscientia under direction of the authors and funded by Amylyx.

#### Disclosures

SP, LvdB, RvE, AA-C, JA, AC, PC, MC, AL, and CM are members of the steering committee for this study. MM, JT, EW, and PY are employees of Amylyx Pharmaceuticals.



Presented at  
**Northeast Amyotrophic Lateral Sclerosis Consortium (NEALS) Virtual Meeting**  
 October 6-7, 2021