Supplemental data

Supplemental Table 1: Clenbuterol Trial Inclusion and Exclusion Criteria

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| Inclusion Criteria | 1. Diagnosis of possible or more definite ALS according to the El Escorial criteria 2. FVC >50% of predicted for age, height and gender. If FVC testing is restricted due to COVID-19, then a most recent FVC within the past 6 months of 80% or greater will be allowed. 3. At least four of 12 ALSFRS-R questions scored as 2 or 3 at screening. 4. Diminished but measurable grip strength (1) in at least one hand (females:10–50 pounds; males, 10–70 pounds). 5. Taking riluzole at a stable dose or not taking riluzole at screening. 6. On Radicava at a stable dose for at least 30d or not taking this 7. Life expectancy at least 6 months 8. Able to swallow tablets without crushing. 9. Age: 18+ years at enrollment. 10. Subjects are capable of giving written consent. 11. If sexually active, must agree to use contraceptive or abstinence for duration of treatment 12. Females of child bearing age must have negative pregnancy test at screening |
| Exclusion Criteria | * 1. Concurrent illness or laboratory abnormalities that could confound the measurement of ALS progression or interfere with the ability to complete the study.   2. Taking any investigational study drug within 30 days of screening or five half-lives of the prior agent.   3. No previous exposure to clenbuterol.   4. Pregnancy   5. Clinically relevant EKG abnormality (arrhythmia, cardiomyopathy)   6. Tachycardia (resting heart rate greater than 100 beats per minute)   7. History of seizure disorder   8. Hyperthyroidism   9. Pheochromocytoma   10. Pregnancy   11. Have any other co-morbid conditions that in the opinion of the study investigator, places the participant at increased risk of complications, interferes with study participation or compliance, or confounds study objectives   12. History of hypersensitivity to 2-agonist drugs such as albuterol, levalbuterol (Xopenex), bitolterol (Tornalate), pirbuterol (Maxair), terbutaline, salmeterol (Serevent).   13. The use of the following concomitant meds is prohibited during the study:       1. diuretics (furosemide, Lasix)       2. digoxin (digitalis, Lanoxin);       3. -blockers such as atenolol (Tenormin), metoprolol (Lopressor), and propranolol (Inderal);       4. tricyclic antidepressants such as amitriptyline (Elavil, Etrafon), doxepin (Sinequan), imipramine (Janimine, Tofranil), and nortriptyline (Pamelor);       5. MAO inhibitors such as isocarboxazid (Marplan), phenelzine (Nardil), rasagiline (Azilect), selegiline (Eldepryl, Emsam), or tranylcypromine (Parnate); or       6. other bronchodilators such as albuterol (Ventolin), levalbuterol (Xopenex), bitolterol (Tornalate), pirbuterol (Maxair), terbutaline (Brethine, Bricanyl), salmeterol (Serevent), isoetherine (Bronkometer), metaproterenol (Alupent, Metaprel), or isoproterenol (Isuprel Mistometer). |

Supplemental Table 2: ALSFRS-R and FVC data at each study visit (Δ indicates missing FVC measurements)

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| Study ID | ALSFRS/FVC  baseline | ALSFRS/FVC  Week 4 | ALSFRS/FVC  Week12 | ALSFRS only  Week 16 phone | ALSFRS only  Week 20 phone | ALSFRS/FVC  Week 24 |
| 1 | 35/85% | Drop out at week1 | - | - | - | - |
| 2 | 38/97% | 39/98.8% | 39/Δ | 39 | 39 | 34/Δ |
| 3 | 37/58% | 36/62% | 35/55% | 35 | Drop out after week 16 | - |
| 4 | 33/87% | Drop out at week1 | - | - | - | - |
| 5 | 43/55% | 43/Δ | 46/79% | 46 | 46 | 45/83% |
| 6 | 31/50% | 28/Δ | 26/Δ | 27 | 23 | 22/30% |
| 7 | 30/103% | 30/106% | 30/Δ | Drop out at week 15 | - | - |
| 8 | 31/60% | 31/67% | 31/Δ | 30 | 28 | 24/43% |
| 9 | 38/98% | Drop out at week1 | - | - | - | - |
| 10 | 41/76% | 42/96% | 42/100% | 42 | 42 | 42/98% |
| 11 | 32/Δ | 32/Δ | 32/95% | 32 | 32 | 32/Δ |
| 12 | Screen failure | - | - | - | - | - |
| 13 | 25/66% | 24/Δ | Drop out at week 6 | - | - | - |
| 14 | 33/56% | 33/Δ | 29/78% | 29 | 29 | 29/67% |
| 15 | 34/Δ | Drop out at week 1 | - | - | - | - |
| 16 | 24/64% | 21/Δ | 12/57% | 11 | 11 | 11/48% |
| 18 | 33/81% | 33/60% | 24/54% | 25 | Drop out after week 16 | - |
| 19 | 36/96% | 33/Δ | Drop out at week 6 | - | - | - |
| 20 | 37/107% | 31/Δ | Drop out at week 5 | - | - | - |
| 21 | 36/Δ | 36/101% | 35/108% | Drop out after week 12 | - | - |
| 22 | 36/Δ | Drop out at week 1 |  |  |  |  |
| 23 | 29/74% | 27/80% | 22/Δ | Drop out at week 15 |  |  |
| 24 | 33/Δ | 29/100% | 23/79% | 22 | 21 | 18/69% |
| 25 | 31/Δ | 31/86% | 31/96% | 32 | 31 | 31/82% |
| 26 | 41/Δ | 43/99% | 42/96% | 43 | 44 | 42/Δ |
| 27 | 35/80% | 33/Δ | 25/68% | Drop out at week 14 | - | - |