Background

- ACE-083 is a locally-acting investigational protein therapeutic that binds GDF8 (myostatin) and other ligands in the TGF-β superfamily that negatively regulate skeletal muscle.
- ACE-083 was designed to increase muscle mass and strength selectively in the muscle into which the drug is administered.
- In wild type (WT) mice, local injection of ACE-083 2x/week for 1 month into the left gastrocnemius muscle led to localized, dose-dependent hypertrophy in the target muscle and increases in strength.

Phase 1 Clinical Study Objectives

- Randomized, double-blinded, placebo-controlled, dose-ranging study in healthy post-menopausal women
- Primary objective: Safety and tolerability of single and multiple doses of ACE-083 as a local muscle injection
- Secondary objectives: Estimate systemic exposure of ACE-083; evaluate pharmacodynamic effects including muscle volume by MRI and strength by hand-held dynamometer and fixed system

Phase 1 Results

- 58 post-menopausal women were enrolled into the study
- 42 were treated with ACE-083
  - Median (range) age 56 (45-70) yr; BMI 25.9 (19.2-31.6) kg/m²; 98% white
  - No serious adverse events (AEs), dose-limiting toxicities, or discontinuations due to AE
  - All AEs were grade 1, transient, and most commonly injection-site related
  - Similar AE incidence was observed in placebo and active groups

Adverse Events at Least Possibly Related to Study Drug in ≥10% of Subjects

- ACE-083 had a favorable safety profile and resulted in dose-dependent and significant increases in muscle volume.
- These data support further clinical studies of ACE-083 to potentially improve strength and function in neuromuscular diseases; a phase 2 study in facioscapulohumeral muscular dystrophy (FSHD) will be initiated in 2016.

References

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