

Poster presentation

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Effect of a supplement containing primarily beta alanine, arginine, creatine malate, and glycerol monostearate on exercise-induced changes in lean mass of the arms

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Background

The purpose of this study was to determine the effect of acute ingestion of a supplement containing primarily beta alanine, arginine, creatine malate, and glycerol monostearate (MORPH™) on exercise-induced changes in lean mass of the arms.

Methods

Using a randomized, placebo-controlled, double-blind, crossover design, eight healthy men (mean \pm SD age, height, weight: 23.6 \pm 3.0 y, 180.3 \pm 6.9 cm, 81.8 \pm 6.9 kg,) were randomly assigned to ingest one serving of MORPH™, and on a separate day placebo, along with 12 ounces of water. Verification of ingredient purity and potency by an external laboratory is pending. Thirty minutes after consumption, subjects completed a standardized workout for the elbow flexors and extensors (i.e., six sets \times 12–15 reps of biceps curls alternated with six sets \times 12–15 reps of lying triceps extensions). Weight loads, rest periods between sets, and tempo of execution were tightly controlled from trial to trial. Body composition was measured with dual-energy x-ray absorptiometry (DEXA) prior to supplementation and immediately following the final set of resistance exercise. Twenty-four hours before each trial, subjects were required to refrain from exercise and follow a standardized diet. Data were analyzed via ANOVA and statistical significance was accepted at $P \leq 0.05$.

Results

Acute resistance exercise increased the lean mass (LM) of the arms in both trials (MORPH™: +13.5%; 8807 \pm 824 [baseline] to 9999 \pm 954 grams [post], placebo: +7.6%; 9066 \pm 813 [baseline] to 9753 \pm 860 grams [post], $P < 0.004$), but the increase was significantly greater in MORPH™ ($P < 0.003$) (Figure 1). In contrast, no statistically significant interactions were noted for fat mass or systemic hemodynamics (heart rate, systolic or diastolic blood pressure).

Conclusion

Within the framework of the current experimental design, these preliminary data indicate that acute supplementation with a product containing primarily beta alanine, arginine, creatine malate and glycerol monostearate (MORPH™) augments resistance exercise-induced increase in lean mass of the arms without negatively affecting systemic hemodynamics. Future studies should confirm and refine these results in a larger sample size, determine the effects of daily supplementation with MORPH™ on body composition and performance during prolonged (i.e., 4–8 weeks) resistance training, and clarify the mechanisms by which this multi-ingredient product exerts these effects.

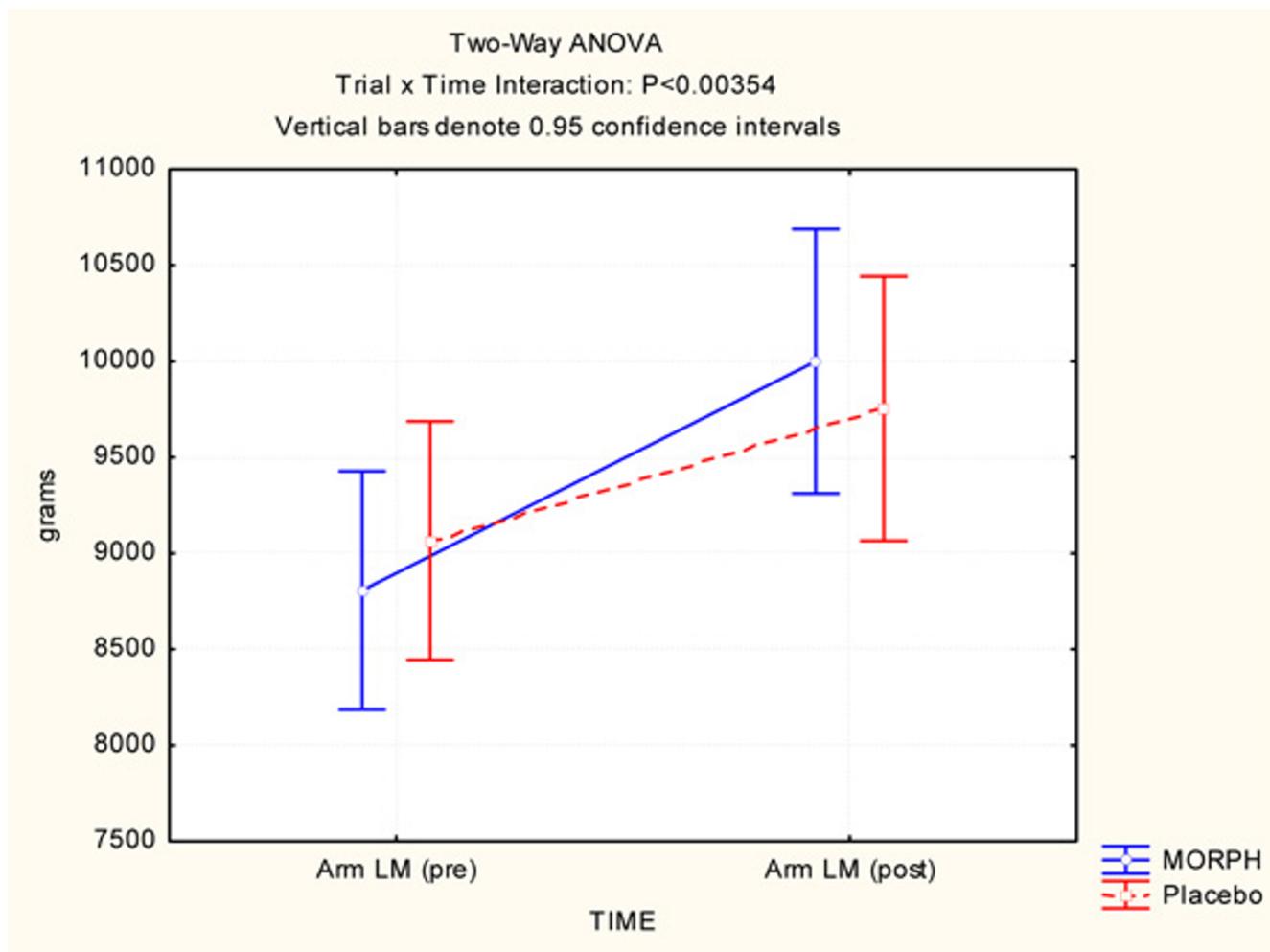


Figure 1

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