

Poster presentation

Four weeks of supplementation with a multi-nutrient product increases lean mass and muscular performance in resistance trained men

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Background

The purpose of this study was to determine the effects of a multi-nutrient supplement (SuperPump 250™ [SP250]) on muscular strength, muscular endurance, and body composition during four weeks of intense resistance training.

Methods

Using a randomized, double-blind design, 30 healthy men (mean ± SD age, height, weight, % body fat: 25.7 ± 6.7 y, 178.0 ± 6.4 cm, 84.4 ± 10.7 kg, 18.9 ± 7.0%) were matched for age, resistance training history, daily caffeine intake, weekly meat consumption, bench press strength, bench press endurance, and percent body fat and then randomly assigned to ingest 2–3 scoops per day of SP250 or placebo for one month. Body composition (DEXA), muscular performance (1-RM bench press and repetitions to failure [RTF: 3 sets × baseline body weight, 60-sec rest between sets]), and clinical blood chemistries were measured at baseline and after four weeks of supplementation and training. Subjects were required to maintain their normal dietary habits and follow a specific, progressive overload resistance training program (4-d/wk, upper body/lower body split) during the study. Data were analyzed via repeated-measures ANOVA and (where necessary) Fisher LSD post-hoc tests. Statistical significance was set *a priori* at $p \leq 0.05$.

Results

Significant between group differences over time were noted in: RTF (SP250: +28.2%; 29.1 ± 15.8 [wk 0] to 37.3.0 ± 20.0 reps [wk 4] vs. placebo: +12.0%; 29.1 ± 12.1 [wk 0] to 32.6 ± 12.1 reps [wk 4], $P < 0.04$), lean mass (SP250: +2.1%; 66.58 ± 8.57 [wk 0] to 68.00 ± 9.16 kg [wk 4] vs. placebo: +0.3%; 59.93 ± 3.62 [wk 0] to 60.08 ± 3.94 kg [wk 4], $P < 0.01$), upper extremity lean mass (SP250: +5.5%; 9.27 ± 2.34 [wk 0] to 9.78 ± 2.62 kg [wk 4] vs. placebo: +0.3%; 7.88 ± 1.27 [wk 0] to 7.90 ± 1.51 kg [wk 4], $P < 0.03$), and % body fat (SP250: -0.9%; 22.8 ± 8.2 [wk 0] to 21.9 ± 8.4% [wk 4] vs. placebo: +0.9%; 20.0 ± 6.6 [wk 0] to 20.9 ± 7.7% [wk 4], $P < 0.04$) (Figure 1). Both groups had significant (~6%) increases in 1-RM bench press from wk 0 to wk 4, however, no between-group differences were noted ($P < 0.30$). No changes in systemic hemodynamics (heart rate, systolic and diastolic blood pressures) or clinical blood chemistries (glucose, blood urea nitrogen, creatinine, sodium, potassium, serum protein, albumin, globulin, A:G ratio, bilirubin, alkaline phosphatase, alanine aminotransferase, aspartate aminotransferase, total cholesterol, HDL-cholesterol, triacylglycerol, VLDL-cholesterol, LDL-cholesterol) were noted between groups over time.

Conclusion

These preliminary data indicate that SP250 administration enhances gains in muscular performance and lean mass, and also leads to a small, but statistically significant

Training Adaptations Following 30-days of Supplementation (Post value minus Pre value \pm SE)

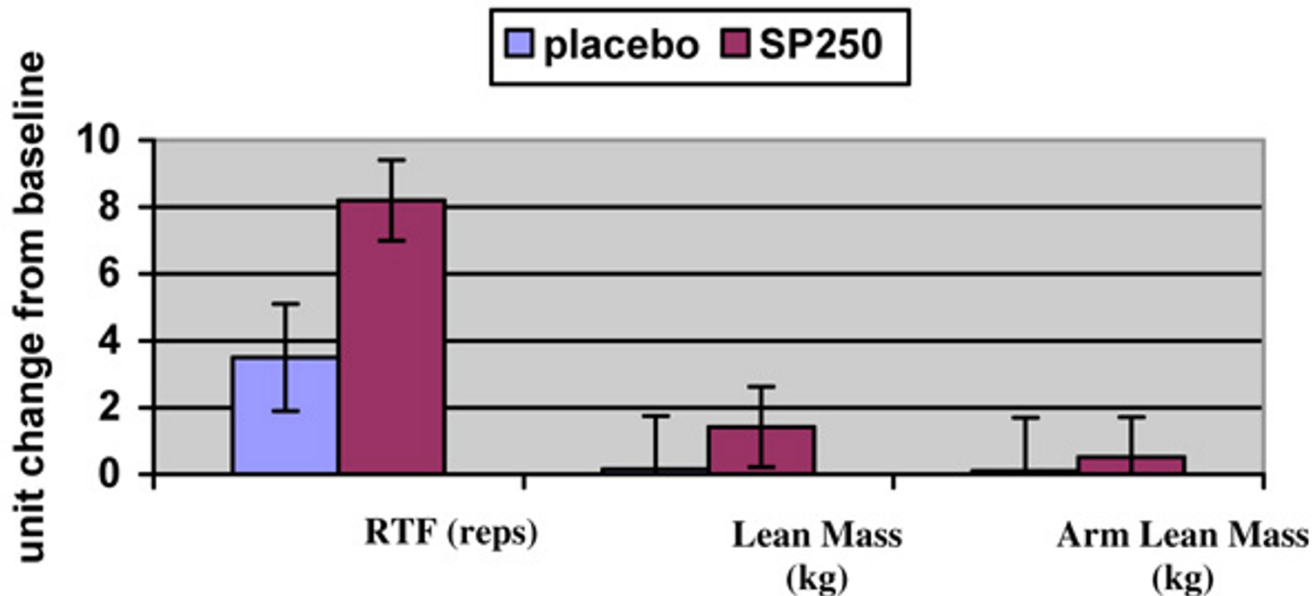


Figure 1

reduction in body fat during four weeks of intense resistance training. Future studies should confirm these results and clarify the molecular mechanisms by which SP250 exerts the observed salutary effects.

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