

Poster presentation

Effects of 28 days of resistance exercise and consuming a commercially available pre-workout supplement, NO-Shotgun®, on body composition, muscle strength and mass, markers of satellite cell activation, and clinical safety markers in males

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Background

This study determined the effects of 28 days of heavy resistance exercise combined with the nutritional supplement, NO-Shotgun®, on body composition, muscle strength and mass, markers of satellite cell activation, and clinical safety markers.

Methods

Eighteen non-resistance-trained males participated in a resistance training program (3 × 10-RM) 4 times/wk for 28 days while also ingesting 27 g/day of placebo (PL) or NO-Shotgun® (NO) 30 min prior to exercise. Data were analyzed with separate 2 × 2 ANOVA and t-tests (p < 0.05).

Results

Total body mass was increased in both groups (p = 0.001), but without any significant increases in total body water (p = 0.77). No significant changes occurred with fat mass (p = 0.62); however fat-free mass did increase with training (p = 0.001), and NO was significantly greater than PL (p = 0.001). Bench press strength for NO was significantly greater than PL (p = 0.003). Myofibrillar protein increased with training (p = 0.001), with NO being significantly greater than PL (p = 0.019). Serum IGF-1 (p = 0.046) and

HGF (p = 0.06) were significantly increased with training and for NO HGF was greater than PL (p = 0.002). Muscle phosphorylated c-met was increased with training for both groups (p = 0.019). Total DNA was increased in both groups (p = 0.006), while NO was significantly greater than PL (p = 0.038). For DNA/protein, PL was decreased and NO was not changed (p = 0.014). All of the myogenic regulatory factors were increased with training; however, NO was shown to be significantly greater than PL for Myo-D (p = 0.008) and MRF-4 (p = 0.022). No significant differences were located for any of the whole blood and serum clinical chemistry markers (p > 0.05).

Conclusion

When combined with heavy resistance training for 28 days, NO-Shotgun® is not associated with any negative side effects, nor does it abnormally impact any of the clinical chemistry markers. Rather, NO-Shotgun® effectively increases muscle strength and mass, myofibrillar protein content, and increases the content of markers indicative of satellite cell activation.

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