

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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from 2009 International Society of Sports Nutrition Conference and Expo
New Orleans, LA, USA. 14–15 June 2009

Published: 31 July 2009

Journal of the International Society of Sports Nutrition 2009, **6**(Suppl 1):P18 doi:10.1186/1550-2783-6-S1-P18

This abstract is available from: <http://www.jissn.com/content/6/S1/P18>

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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 MyoD (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.

Acknowledgements

We would like to thank the individuals that participated as subjects in this study. This study was supported by a supplement donation from VPX (Davie, FL) to Baylor University.

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