Selected for presentation at the American College of Sports Medicine's Annual Convention, May 2002

The Effect of VP2 Whey Isolate and Resistance Training on Strength, Body Composition and Plasma Glutamine

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It is well established that athletes undertaking intense resistance training programs require higher dietary protein intakes. However very few studies have addressed what type of protein is optimal to enhance effects from weight training exercise. This study examined the effects of two high quality supplements, VP2 Whey Isolate and casein on strength, body composition and plasma glutamine levels during a 10-week intense resistance training program.

METHODS: In a randomized, double-blind protocol, thirteen resistance-trained males (mean SD age: 25.5 6.68yr; height:179.67 7.94cm; weight:83.97 4.98kg.) supplemented their normal diet with either VP2 Whey Isolate or a casein protein supplement (1.5gms/kg body wt/day) for 12 weeks. All subjects undertook the same fully supervised Max-OT™ resistance training program three times per week. The program was periodized in progressive overload with exercise selection focusing on the compound movements (barbell bench press, squat, dead lift, shoulder press, weighted chin-ups). To ensure normal eating patterns were maintained, written three-day food recordings were completed by the bodybuilders throughout the study. Compliance to the supplement intake and nutrition recordings was 100%. Strength was assessed by 1-RM in the barbell bench press, squat and cable pull-down. Body composition was assed by DEXA QDR 4500. Plasma glutamine levels were determined by Lund's enzymatic method with spectroscopic detection. All assessments occurred in the week before (week 1) and the week after training (week 12).

RESULTS: The bodybuilders supplementing with VP2 Whey Isolate achieved a significantly greater gain ($P<0.01$) in lean mass than the casein group. The group supplementing with VP2 gained an average of 4.99 0.25 kgs compared to a 1 0.43 kg gain in lean mass seen in the casein group. While the group using casein showed no change in body fat, the group using VP2 lost 1.46 0.52kgs of body fat while the group using casein showed no change (+0.19 0.27 kg).

While both groups significantly increased ($P< 0.05$) strength in the three exercises assessed, the group using VP2 made greater strength increases ($P< 0.05$) in all three exercises compared to the group supplementing with casein. The group supplementing with VP2 experienced a 55kg greater gain in strength in the squat exercise, a 64kg better gain in the bench press and a 29kg greater gain in the pull down exercise. Plasma glutamine levels, pre- and post-training, did not change in either group.

CONCLUSION: The major finding of this study was that supplementation with VP2 Whey Isolate was more effective at increasing muscle mass and strength as well as decreasing fat mass than supplemention with casein. This study is the first to show clear benefits of consuming one quality protein supplement compared to another during athletic training.

This research was supported by AST Sports Science.