



INGREDIENT COMPARISON

 myHMB[®]

 VELOSITOL[®]



What is Velositol?

Velositol is an amylopectin-chromium complex marketed by Nutrition 21.

Marketed for use in combination with protein, not as a standalone.

How does Velositol work?

Chromium has been shown to increase insulin signaling.



	Amount Per Serving	% Daily Value
Chromium (from Picolinate and Histidinate)	1000 mcg	834%
Amylopectin (from waxy maize)	1790 mg	†

† Daily Value not established.
Other ingredients: Dicalcium phosphate, microcrystalline cellulose, gelatin, water, magnesium stearate

Distributed by: Nutrition 21, LLC

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.



Double-blind,
placebo-controlled
clinical studies

0

Clinical trials with
Velositol as standalone
ingredient

0

Clinical trials with
Velositol in combination
with protein

2



■ Velositol + whey protein may boost muscle protein synthesis (MPS) by enhancing insulin sensitivity.

■ Velositol + whey protein may increase performance outcomes, such as squat strength, reps to failure, vertical power, and vertical jump height, perhaps by modifying or optimizing muscle fiber physiology.





A CLOSER LOOK AT THE STUDIES



Double-blind, cross-over design, ten subjects (six men, four women)



6g whey protein + 2g of the amylopectin-chromium complex (WPACr) or 6g whey protein (WP) after an overnight fast.

Fractional rate of muscle protein synthesis (FSR), muscle biopsies at 2, 4, and 8 h. Plasma EAA and insulin. After the biopsy at 4 h, subjects ingested their respective supplement, completed eight sets of bilateral isotonic leg extensions at 80% of their estimated 1-RM, and a final biopsy was obtained 4 h later.

No difference in increased EAA. Insulin tended to be higher in the WPACr trial. Paired samples t-tests using baseline and 4-h post-ingestion FSR data separately for each group revealed significant increases in the WPACr group and no difference in the WP group. Independent t-tests confirmed significant differences in post-treatment FSR between trials.

Acute ingestion of 2g Velositol + and a suboptimal dose of whey protein (6g) resulted in greater rates of myofibrillar muscle protein synthesis 4 hours after completing a single bout of leg extension exercise (8 sets of 10 repetitions at 80% one-repetition maximum) compared with whey protein alone (6g).



Velositol plus 15g whey protein vs. 15g or 30g whey protein

Looking to validate increases in muscle mass when combined with standard protein dose and resistance training using randomized, active-controlled, double-blind design.



No effect on muscle mass

The addition of Velositol did not change muscle mass at the end of the study, showing that the acute activation of muscle protein synthesis did not translate into gains in muscle mass, when combined with resistance training.



Not a double-blind study

Study materials differed significantly in weight.



Diseased population

Subjects (total 35) in the study were overweight or obese (25 –34.99 kg/m²) [FDA requirements for “healthy”: individual BMI <32, with group average BMI <30], with insulin sensitivity [HOMA-IR]



Observed increased lower-body muscular endurance and power (e.g., squat RTF, vertical power, vertical jump) could be attributed to the significant difference in energy intake between groups (was significantly higher in the Velositol group).



MPS (FSR)
myHMB: +70%

MPB (Leg muscle protein flux)
myHMB: -57% decrease of
muscle protein breakdown
in an insulin-independent
manner

**MUSCLE PROTEIN
SYNTHESIS &
BREAKDOWN [1,2]**



MPS (FSR)
Velositol plus 6g whey
protein and exercise: +48%

MPB (Leg muscle protein flux)
Velositol: N/A

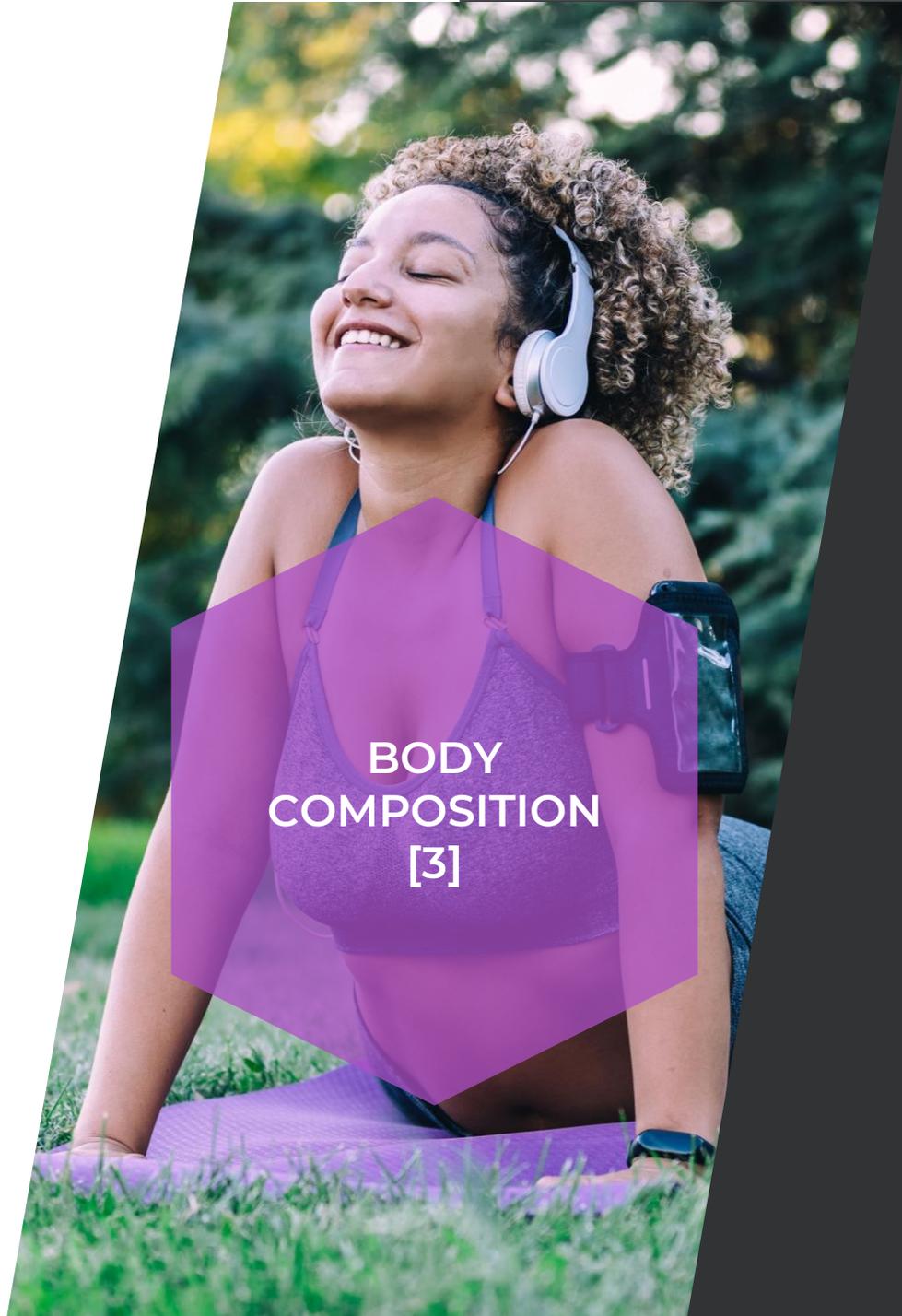


Mass
**(Lean Mass, Fat Loss,
Muscle Thickness)**

myHMB: +250% greater
increase in lean muscle mass
(7.4kg vs 2.1kg)
vs training alone

myHMB: +210% greater
increase in fat loss (5.4kg vs
1.7kg) vs training alone

myHMB: +200% greater
increase in quadriceps
thickness (14.3% vs 4.8%)
vs training alone



Mass
**(Lean Mass, Fat Loss,
Muscle Thickness)**

Velositol: N/A

Velositol: N/A

Velositol: N/A



POWER (Wingate, Vertical Jump)

myHMB [3]: +54%
increase in anaerobic
power over training alone

myHMB [3]: + 58%
increase in vertical jump
power over training alone

AEROBIC PERFORMANCE (High-Intensity Interval Training (HIIT))

myHMB [4]: Results in
greater benefits in improving
indicators of aerobic fitness
than HIIT alone



POWER (Wingate, Vertical Jump)

Velositol: N/A

Velositol: N/A

AEROBIC PERFORMANCE (High-Intensity Interval Training (HIIT))

Velositol: N/A



Muscle Protein Synthesis & Breakdown

myHMB is superior to Velositol plus whey protein (6g) in increasing MPS +146%. HMB also and decreases MPB [1,2].

Lean Body Mass / Fat Mass / Muscle Thickness

myHMB shows significant improvements over placebo whereas Velositol does not provide any published data on website.

Performance/Power

myHMB shows significant improvements over placebo for Wingate peak power and vertical jump power whereas Velositol does not provide any published data on website.

Anaerobic Performance

myHMB results in greater benefits on improving indicators of aerobic fitness than HIIT alone whereas Velositol does not provide any published data on website.

Research Support

myHMB has numerous clinical trials, including acute and training studies, in healthy humans using gold standard protocols. Velositol has limited published clinical data supporting the listed performance benefits on their website.



References:

myHMB: [1] D.J. Wilkinson et al., J Physiol 2013, 591(Pt 11):2911-2923. [3] J.M. Wilson et al., Eur J Appl Physiol 2014, 114(6):1217-27. [4] E.H. Robinson et al., J Int Soc Sports Nutr 2014, 11:16. Velositol: [2] T.N. Ziegenfuss et al., J Int Soc Sports Nutr 2017, 14:6.