

Amylopectin/chromium complex boosts muscle protein synthesis rate: Study



By Stephen Daniells+

02-Mar-2017

Last updated on 02-Mar-2017 at 16:24 GMT



© iStock/takoburito

Related tags: [Amylopectin](#), [Chromium](#), [Velositol](#), [Whey protein](#), [Muscle protein synthesis](#), [Dietary supplements](#), [Sports nutrition](#)

A combination of amylopectin and chromium may double the muscle protein synthesis rate compared to what was seen when using whey protein alone, says a new study using Nutrition 21's patented Velositol ingredient.

Adding a 2 gram dose of Velositol to a 6 gram dose of whey protein led to a 48% increase in muscle protein synthesis from baseline, compared to a 24% increase seen with 6 grams of whey protein alone, according to findings of a study with 10 healthy men and women aged between 22 and 34.

"Muscle biopsy studies are tightly controlled and highly invasive, so small sample sizes are very common. With a study like this, if you cannot show a difference with 10 people, it's unlikely one exists in the 'real world,'" said Tim Ziegenfuss, PhD, lead author of the study and CEO of Center for Applied Health Sciences. *"The study results are impressive. It's not only statistically significant that Velositol doubled muscle protein synthesis, but also practically relevant for anyone who is active and may not be consuming enough protein to support enhanced muscle growth.*

"Until this study was done, one of the only ways known to improve the anabolic response to resistance training was to consume more protein, which is not always practical. If future studies confirm our results, Velositol could be a huge benefit not only to people in their 20s and 30s, but especially those in their 40s and 50s and older whose muscles become more resistant to the

Follow @NutraUSA

8,713 followers

Like 2.3k

G+ Follow

210

MOST POPULAR NEWS

- 1 The key ingredients for blood sugar management
- 2 Did a Nobel Laureate spark the obesity epidemic?
- 3 Herbal supplements all too often ignore underlying principles, experts say
- 4 Groups call for deep revision or outright rejection of FDA fiber guidance
- 5 Court dismisses class action against CVS for vitamin C 'Made in USA' claims

KEY INDUSTRY EVENTS

[Access all events listing](#)

Our events, Shows & Conferences...

PRODUCTS

Join the Omega-3 Index Project™

Aker BioMarine

ACTIFUL, the ultimate support for active living
BioActor**WATTS'UP, a natural sports performance booster**
BioActor**Increase the I.Q. of your functional food or beverage**
Kyowa Hakko**6 Must-Haves To Qualify A Vitamin K2 Ingredient**
NattoPharma USA, Inc.**CAPROS® A SUPERFRUIT EXTRACT FOR HEART & SKIN HEALTH**
Natreon Inc.[View All Products](#)

anabolic effects of protein.”

The study's findings were published in the *Journal of the International Society of Sports Nutrition*. Funding was provided by Nutrition 21.

Study details

On two different occasions, Dr Ziegenfuss and his co-workers gave the participants a single dose of Velositol with 6 grams of whey protein or 6 grams of whey protein alone, and completed eight sets of bilateral isotonic leg extensions at a load equivalent to 80% of their estimated one-repetition maximum.

Results showed that Velositol plus whey led to significant increases in muscle protein synthesis. A non-significant increase in insulin to help initiate muscle growth was also reported. Blood glucose levels remained in the healthy, normal range, added the researchers.

“To our knowledge, these results are among the first to illustrate the impact of a novel amylopectin chromium-containing complex on the stimulation of mixed muscle protein synthesis,” wrote the researchers. *“In seeking an explanation for our study outcomes, the purported ability of chromium to favorably alter insulin metabolism is an important mechanistic consideration.”*

“While the exact role(s) of insulin in muscle protein metabolism continues to be clarified, insulin has a demonstrated stimulatory effect on muscle protein synthesis when adequate EAA [essential amino acids] precursors are present, and seems to work more towards reducing muscle protein breakdown when EAA concentrations are reduced.”

“If [Velositol] acutely enhances these intracellular responses to insulin as indicated by previous work in culture, animal and human studies, then it may potentially augment the anabolic response of skeletal muscle to an otherwise suboptimal dose of whey protein,” they added.

“Future research should confirm these data and seek to better understand the mechanisms responsible for the observed results,” they concluded.

“Exceeding expectations”

In a release, Nutrition 21 stated that, given the success of this study, more studies will be funded to further demonstrate the additional benefits of Velositol.

“This study shows Velositol has the ability to unlock the potential of protein, promote leaner body composition and enhance muscle building,” said Joe Weiss, president of Nutrition 21. *“This study confirmed our theories, and exceeded our expectations for Velositol.”*

Source: *Journal of the International Society of Sports Nutrition*

2017, 14:6, doi: 10.1186/s12970-017-0163-1

“Effects of an amylopectin and chromium complex on the anabolic response to a suboptimal dose of whey protein”

Authors: T.N. Ziegenfuss et al.

Copyright - Unless otherwise stated all contents of this web site are © 2017 - William Reed Business Media SAS - All Rights Reserved - Full details for the use of materials on this site can be found in the [Terms & Conditions](#)

RELATED NEWS:

Nutrition 21 launches new chromium/amylopectin complex for sports nutrition

RELATED TOPICS:

[Suppliers](#), [Research](#), [Minerals](#), [Proteins](#), [peptides](#), [amino acids](#), [Women's health](#), [Sports nutrition](#), [Men's health](#)



- [Search all jobs](#)
- [Sign-up for jobs by email](#)

Hr Coordinator

CPA Recruitment Ltd (Saint Louis)

[Apply](#)

Route Operations Leader

Nestle (USPS District Chicago)

[Apply](#)

On demand Supplier Webinars

High-amylose maize starch may reduce the risk of type 2 diabetes: what does this qualified health claim mean?

Ingredient

NutraIngredients-USA Blood Sugar Management forum

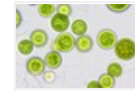
William Reed Business Media

Balancing Innovation and Risk in Sports Nutrition Ingredients
NSF-International

The Advantage of Outsourcing Fermentation-based Manufacturing Processes
Evonik Health Care

All supplier webinars

TODAY'S HEADLINES



Qualitas hits finish line with launch of algal omega-3 finished products



ChromaDex CEO: 'Purchasing practices need to change to fix quality standards'



Town hall type meeting in Oxford aimed at creating team approach to quality concerns



Omega-3 could decrease mortality rate in postmenopausal women, study suggests



LuckyVitamin: Product discovery is a messy process; it's a combination of art and science

PROMOTIONAL FEATURES



Content Provided by BASF Nutrition & Health

By BASF Nutrition & Health

Personalized nutrition: The path from niche service to mass appeal



Content Provided by Kyowa Hakko
Cognizin Citicoline: A brain health ingredient supported by clinical trial data

By Kyowa Hakko