Study Shows Kyowa Hakko’s L-Citrulline May Help Reduce Gastrointestinal Injury During Strenuous Exercise

*L-Citrulline might be a preferred pre-work out ingredient for endurance athletes.*

New York, NY (PRWEB) January 22, 2015 -- A study recently published in the American College of Sports Medicine flagship journal Medicine & Science in Sports & Exercise shows oral supplementation with L-Citrulline before exercise may help reduce gastrointestinal (GI) problems associated with physical strain during strenuous exercise.1

Participants in the double-blind, placebo-controlled study took 10 grams of L-Citrulline orally before exercise. Subsequent tests showed increased levels of L-Arginine, an amino acid critical to the production of nitric oxide (NO). NO is known to support blood circulation. Blood flow in the stomach and small intestine drops during exercise, which can lead to damage to the fragile intestinal lining and may be responsible for unpleasant GI symptoms. Data of this study revealed that L-citrulline intake resulted in preserved GI perfusion and microcirculation during exercise.1

“These results may be useful for athletes with ischemia-related abdominal symptoms during strenuous exercise,” said researchers Karolina Wijnands and Dr Kaatje Lenaerts, Maastricht University Medical Centre. “The current study demonstrates that a single oral dose of L-Citrulline before exercise reduces intestinal injury and can be taken without side effects.”

In addition, recent work showed L-Citrulline also to be a more preferential substrate to enhance the microcirculation in a mouse model with endotoxemia, which mimics the human sepsis.2

And a related animal study published in November in Biochemical and Biophysical Research Communications showed L-Citrulline plus L-arginine supplementation caused a more rapid increase in plasma L-arginine levels and marked enhancement of NO bioavailability, including plasma cGMP concentrations, than with dosage with the single amino acids. Blood flow in the central ear artery in rabbits was also significantly increased by L-Citrulline plus L-arginine administration as compared with the control.3

KYOWA HAKKO BIO CO. LTD. provided the L-Citrulline used in the study.

References:


3) Masahiko Morita, Toshio Hayashi, Masayuki Ochiai, Morihiko Maeda, Tomoe Yamaguchi, Koichiro Ina, Masafumi Kuzuya, Oral supplementation with a combination of l-citrulline and l-arginine rapidly increases plasma l-arginine concentration and enhances NO bioavailability, Biochemical and Biophysical Research
About Kyowa Hakko’s L-Citrulline

L-Citrulline is an amino acid that plays an important role in nitric oxide metabolism and regulation. L-Citrulline is converted to L-Arginine in the body, leading to sustained increases in both L-Arginine and nitric oxide. An ingredient with application in the areas of heart health and sports nutrition, L-Citrulline is preservative-free, allergen-free, and contains no artificial flavors or colors. It’s non-hygroscopic, highly stable, and mild taste make it suitable for use in a variety of formulations. This pure, vegetarian ingredient is also self-affirmed GRAS. Manufactured in the U.S. using a proprietary fermentation process, L-Citrulline is an ultra-pure amino acid that carries the Kyowa Quality logo, ensuring the ingredient is backed by our commitment to the highest manufacturing standards.

About Kyowa Hakko USA

KYOWA HAKKO USA, INC is the North American sales office for KYOWA HAKKO BIO CO. LTD., an international health ingredients manufacturer and world leader in the development, manufacturing and marketing of pharmaceuticals, nutraceuticals and food products. Kyowa is the maker of branded ingredients including Cognizin® Citicoline, Pantesin® Pantethine, Setria® Glutathione, as well as Sustamine® L-Alanyl-L-Glutamine. For more information, visit http://www.kyowa-usa.com.
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