

Small Nitrosigine dose matches big citrulline dose in dilating blood vessels

By Hank Schultz [↗](#)

03-Mar-2020 - Last updated on 03-Mar-2020 at 17:41 GMT

RELATED TAGS: Amino acid, Amino acids, Nitric oxide, nitric oxide boosters



TOPIC RELATED SPONSORED LINK

Nutrition brands seeking category differentiation are finding opportunity in these estal flavor profiles that are poised for sports nutrition... [Click here](#)

Nutrition 21's Nitrosigine has been shown to dilate blood vessels as effectively as a much higher dose of citrulline in a study published recently.

The study, which was published in the *Journal of the International Society of Sports Nutrition*, was conducted by researchers at the University of Arkansas. It was a double-blind, placebo-controlled study that consisted of three arms: the placebo group, a Nitrosigine group and a group consuming citrulline maleate (CM).

Nitrosigine is a form of arginine stabilized with inositol. It is marketed for sports nutrition supplements.

FMD measurement formed major endpoint

The participants were 24 physically active young university students. Of these, 16 were men and 8 were women. The researchers excluded any potential subjects who had cardiovascular disease, were nicotine users or used sports supplements. The major endpoint of the study was the change in the measured flow mediation dilation (FMD) of blood vessels in the arm.

Vasodilation is one of the mechanisms by which it is postulated that sports performance can be enhanced. Wider blood vessels equals greater flow, which means more oxygen delivery to the muscles, or so the thinking goes. Dietary ingredients that enhanced nitric oxide production have been shown to positively affect this process. In addition to arginine and citrulline, beetroot juice has been researched for its effects on this endpoint.

The subjects arrived on test day and had a baseline FMD measurement taken, then consumed one of the three test materials. Those consisted of 8 grams of dextrose, 1.5 grams of Nitrosigine, or 8 grams of citrulline maleate dissolved in water. The Nitrosigine and citrulline preparations had dextrose added to even out the caloric values of the three materials.

After consuming the beverage an hour was allowed to relapse, and another FMD measurement was taken. There was a seven day washout period for the men, while the women took part in the study at the appropriate time in their menstrual cycle. The average time between tests thus averaged out to 24 days for the whole group.

Small Nitrosigine dose equals big CM dose

The researchers found that Nitrosigine performed as well as the higher dose of citrulline maleate in increasing the FMD measurements. IN both cases the test materials increased FMD about 2.5% over baseline, while FMD decreased very slightly in the placebo group.

“Results from this study support a novel finding that acute supplementation with CM and Nitrosigine can improve endothelial-dependent vasodilation in trained young adults. Prior to this study, there was no comparison of CM and Nitrosigine effects using FMD. This study supports previous research findings that Nitrosigine may be a beneficial pre-workout supplement, and that a 1.5 g dose of Nitrosigine may be equally as effective at increasing endothelial response as a larger 8 g dose of CM,” the researchers concluded.

The research adds to the data backing Nitrosigine, which includes a study that the company says shows Nitrosigine **has a bioavailability advantage over garden-variety arginine HCl**. The company also points to research showing the supplement can prevent muscle damage after exercise and can boost mental focus.

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

17, Article number: 12 (2020)

Acute effects of Nitrosigine and citrulline maleate on vasodilation

Authors: Rogers JM, Gills J, Gray M

Copyright - Unless otherwise stated all contents of this web site are © 2020 - William Reed Business Media Ltd - All Rights Reserved - Full details for the use of materials on this site can be found in the Terms & Conditions

RELATED TOPICS: Research, Supplements, Sports Nutrition, Dosage forms & delivery formats, Sports nutrition
