prenulin™ blend

a supplement that supports healthy metabolism of sugar

description

Prenulin™ blend is a combination of l-arabinose and Chromax* chromium picolinate.

benefits

Prenulin™ blend is unique because it works in two ways. It may reduce the breakdown of sucrose from food through l-arabinose action on the sucrase enzyme and may support control of insulin in healthy people through the addition of chromium.

L-arabinose is a monosaccharide found in nonstarch carbohydrate plants like corn.[1,2] *In vitro* and animal studies have indicated that the compound may inhibit sucrase action and consequent digestion of sucrose.[3–6] A dose-response study[1] showed a reduced serum glucose level and serum insulin response to sucrose consumption, indicating that the addition of l-arabinose blocked absorption of the sugar.

advantages

- can be administered orally in tablets and capsules
- One small study suggests that chromium picolinate may reduce the risk of insulin resistance, and therefore possibly may reduce the risk of type 2 diabetes. FDA concludes, however, that the existence of such a relationship between chromium picolinate and either insulin resistance or type 2 diabetes is highly uncertain.[13]

- l-arabinose An effect on post-prandial blood sugar levels was seen with 1g-4g of l-arabinose.[1]
- Chromium picolinate a level of more than 20% of the Reference Daily Intake (RDI) per serving can make a "high in" claim

group	RDI
adults and children ≥4 years	35 µg
infants through 12 months	5.5 µg
children 1-3 years	11 µg
pregnant and lactating women	45 µg

dosage

The dosage used in the human clinical trials was 1,000 mg of L-arabinose and 200 µg elemental chromium from a food source (GPM).

Both l-arabinose and chromium picolinate are found in food sources. No Tolerable Upper Intake Level has been established for chromium, and Chromax* has self-GRAS determination.[14]

product form

Prenulin blend is supplied in 25 or 50 kg boxes. Other package sizes are available to meet customer needs.

Common formulation and delivery forms include capsules or tablets. The ingredient has a two-year shelf-life.

physical and chemical properties of Prenulin blend

- chemical composition contains l-arabinose and chromium picolinate equivalent to 200 µg chromium per 1 g Prenulin blend
- appearance and description: light pinkish colored powder
- incompatibilities: none known

A dose-response study investigated the effect of l-arabinose through measurement of serum glucose and insulin levels in 15 male human subjects who drank 25% sucrose beverages.[1] Concentrations of 1.3%, 2.7%, and 4.0% l-arabinose were added to the sucrose drinks. The amount of time to the peak in serum glucose level did not vary between tests, nor did final serum glucose reading at 180 minutes. However, the peak glucose levels were significantly lower ($p<0.01$) from the non-arabinose-containing treatment. Time to peak serum insulin was significantly faster ($p<0.05$) when no l-arabinose was consumed, compared with 2.7% or 4.0% doses. Serum insulin peak was also significantly higher ($p<0.01$) than with each of the treatment groups.

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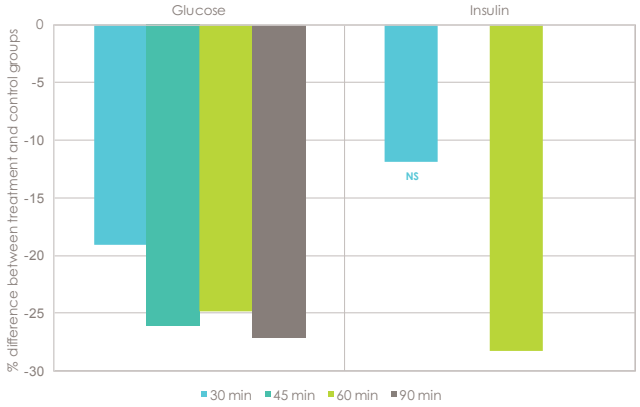
Chromium is a micronutrient that is found throughout the diet, though in small amounts.[7] Many researchers have studied the effects of chromium on human health since it was established that intentional removal of chromium from the diet caused dysfunction of blood sugar management in rats.[8,9] A chromium-binding substance is suspected to be involved in initiating the release of insulin into the blood stream. It is not known for certain, however, whether the beneficial effect of chromium is seen only in individuals who do not have a pool of stored chromium for the possible receptor to access or if chromium supplementation is advised for everyone.[10]

An extensive double-blind, randomized study was conducted to determine the ability of 1,000 µg/day chromium picolinate supplementation to affect insulin sensitivity over eight months in obese subjects at risk for developing diabetes.[11] At four months, a significantly higher insulin sensitivity was found in the supplement group ($p<0.05$) than the non-supplemented group, with a larger difference between groups at eight months ($p<0.005$).[11]

Prenulin blend was tested in another study[12], in which the change in serum glucose and insulin levels in healthy adults after consuming 1,000 mg of the supplement for four weeks was evaluated. Participants had baseline glucose and insulin measurements taken before consuming a sucrose challenge beverage (70 g sucrose in 150 ml water). Serum glucose was measured at 30, 45, 60 and 90 minute intervals, while insulin was measured after 30 and 60 minutes. The difference between the two groups was calculated as a percentage and is shown in the chart. A significant difference in the quantity of serum glucose measured in the treatment (took Prenulin blend) and control (did not take Prenulin blend) groups was found. The differences between insulin levels were not significant (NS) at 30 minutes but were at the 60 minute measurement.[12]

Changes versus control group (no Prenulin blend consumption) in capillary glucose and venous insulin after 70 g sucrose challenge



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[14]https://nutrition21.com/item/chromax/

regional centers

North America — Kearny, NJ USA
Tel: +1 800 526 0609
+1 201 246 2000

Europe — Poland
Tel: +48 22 607 25 33

Europe — Spain
Tel: +34 932 064 195

India — Maharashtra
Tel: +91 22 61489696

Asia Pacific — Singapore
Tel: +65 6775 5366

Middle East, Africa — Istanbul, Turkey
Tel: +90 216 538 08 00

Latin America — Mexico
Tel: +52 55 52 76 6121

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