

Hydroxycut Review

By Elizabeth Myers, RD

Hydroxycut is currently one of the most familiar weight-loss supplements on the market. It is heavily advertised on television and sold in 70 countries worldwide. Hydroxycut claims to cause fast weight loss, increased energy, and a controlled appetite. The supplement costs \$44.99/bottle for 150 capsules, which is quite expensive for a weight loss supplement, especially considering that they suggest you take 2 capsules an hour before every meal for a total of six capsules/day.

Product Claims vs. Scientific Evidence

Hydroxycut's web site states: "All the ingredients in Hydroxycut are of the highest quality and combine to make Hydroxycut one of the most effective weight-loss supplements available on the market" and, "Hydroxycut has been a trusted weight-loss product for one reason – because it works!" Also on their website, they have four research abstracts discussing the outcomes (of course, all positive) of studies that were done on the specific ingredients that are in Hydroxycut. The truth is, however, that the effectiveness of this product has not been scientifically proven. Additionally, research has not proven the long term safety or effectiveness of herbal supplements that are not regulated by the FDA. What has been reported, however, is a long list of Hydroxycut's side effects. These include, but not limited to: nose bleeds, high blood pressure, increased heart rate, headaches, acne, blurred vision, dizziness, and restlessness.

Active Ingredients

Hydroxycut's "synergistic blend of research-proven ingredients" consists of:

- Chromium: stabilizes blood sugar and decreases cholesterol
- Calcium: has fat-burning properties
- Potassium: reduces fluid accumulation in body
- Garcinia cambogia extract: hydroxycitric acid - suppresses appetite, carb-blocker
- Gymnema Sylvestre extract: maintains blood sugar and insulin level
- Glucomannan: a dietary fiber – delays glucose absorption
- Alpha lipoic acid: an antioxidant, regulates blood sugar
- Willow bark extract: an anti-inflammatory
- Green Tea: an antioxidant, increases metabolism
- Caffeine: enhances energy and metabolism, reduces fluid accumulation in the body
- Guarana seed extra: a stimulant that is high in caffeine, which enhances energy and metabolism, and reduces fluid accumulation in the body

Hydroxycut

Hydroxycut, currently sold in the US without ephedra, is a dieting product which is touted to help customers lose weight. Hydroxycut is sold at major retailers such as GNC and Wal-Mart in addition to direct marketing email and TV advertising.

The catch is simple; increases metabolism, reduced hunger, lose weight. However, like the bulk of these types of products, there is little scientific evidence to back these claims up and what evidence there is is questionable.

In 2003, Hydroxycut was brought to court for false claims. The lawsuit pointed to the company, Muscle Tech's, own research stating that there was no difference in weight loss against a placebo. There was also the question of Hydroxycut with ephedra and the side effects, including death, which were not properly disclosed on the package. The lawsuit was settled with a 100,000 payout by Muscle Tech yet admitted no wrongdoing.

The truth about Hydroxycut is a little more grey. It seems that the ephedra was really the hook; and that the side effects with ephedra made Hydroxycut too dangerous a product to market.

Yet now that Hydroxycut has no ephedra especially, there is the question of whether there are any health benefits? Some of the companies marketing paint a bleak picture. Apparently the before and after photos of one woman in particular were rather misleading. They were taken "months apart" and in one she had just given birth. Not a very honest depiction.

Also the past medical side effects of the Hydroxycut formula leads a person with common sense to believe that there really are no medical benefits and that the whole product is just a lot of hot air.

We need honesty in advertising and marketing. Especially for weight loss supplements; the people who have resorted to these measures are either extreme in their beliefs or they are desperate to have something work, so they shouldn't be lied to or shown false results as they will automatically think that they too can be that same person, by merely taking the supplement. Words and the truth are things that shouldn't ever be minced with.

An overview of the safety and efficacy of a novel, natural(-)-hydroxycitric acid extract (HCA-SX) for weight management.

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Garcinia cambogia-derived (-)-hydroxycitric acid (HCA) is a safe, natural supplement for weight management. HCA is a competitive inhibitor of ATP citrate lyase, a key enzyme which facilitates the synthesis of fatty acids, cholesterol and triglycerides. Previous studies in our laboratories have demonstrated the superior bioavailability of a novel calcium-potassium salt of HCA derived from *Garcinia cambogia* (HCA-SX, Super CitriMax). Greater bioavailability of HCA-SX was observed when taken on an empty stomach. HCA-SX was also shown to exhibit concentration-dependent release of serotonin in isolated rat brain cortex, which may explain its appetite suppressive action. Acute oral, acute dermal, primary dermal irritation, primary eye irritation and 90-day chronic toxicity studies, as well as Ames bacterial reverse mutation and mouse lymphoma tests, were assessed to determine the safety of HCA-SX. In the 90-day toxicity study, dose- and time-dependent effects of HCA-SX were assessed on body weight, selected organ weights, hepatic and testicular lipid peroxidation and DNA fragmentation, hematology and clinical chemistry, and histopathology in male and female Sprague-Dawley rats. No remarkable toxicity results were detected, demonstrating the safety of HCA-SX. Furthermore, clinical studies to evaluate the safety and efficacy of HCA-SX over a period of eight weeks were conducted in 60 human volunteers. Subjects were given a 2,000 kcal diet/day, participated in a 30 min walking exercise program 5 days/week and given an oral dose of placebo or 4666.7 mg HCA-SX (providing 2,800 mg HCA) in three equally divided doses 30-60 min before meals. Body weight, BMI, lipid profiles, serum leptin, serotonin and excretion of urinary fat metabolites were determined at 0, 4 and 8 weeks of treatment. At the end of 8 weeks, body weight and BMI decreased by 5.4% and 5.2%, respectively. Food intake, total cholesterol, LDL, triglycerides and serum leptin levels were significantly reduced, while HDL and serotonin levels, and excretion of urinary fat metabolites (a biomarker of fat oxidation) significantly increased. No significant adverse effects were reported. These results demonstrate the safety, bioavailability and efficacy of HCA-SX in weight management.

Hypertensive retinopathy associated with use of the ephedra-free weight-loss herbal supplement Hydroxycut.

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The use of performance-enhancing and weight-loss supplements is prevalent in the United States, and over the past decade, there has been growing concern with regard to the safety and efficacy of these products. It is well documented that ephedra-based products are associated with adverse reactions, including serious cardiovascular and neurologic injuries. With new restrictions placed on such products, companies are now marketing caffeine-based ephedra-free herbal supplements. Less is known about the potential side effects of these products. We present the case of a 42-year-old, previously healthy man who developed malignant hypertension and hypertensive retinopathy while taking Hydroxycut, a caffeine-based ephedra-free supplement. To our knowledge, this is the first documented case of hypertensive retinopathy associated with the use of Hydroxycut. Given the lack of investigative studies in regard to their safety and efficacy, judicious care should be taken with the use of all herbal supplements, including those designated as ephedra-free.

Citrus aurantium as a thermogenic, weight-reduction replacement for ephedra: an overview.

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Obesity is a serious health problem throughout the world. More than half of U.S. adults are overweight (61%) and more than a quarter (26%) of U.S. adults are obese. The inability of many individuals to keep their weight in check by diet and exercise has created a need for additional therapeutic means to combat obesity. Despite great effort, the pharmaceutical industry has not come up with the solution; because most weight-loss drugs to date have serious adverse effects to health and well-being. The theory that beta agonists, especially beta 3 agonists, can affect body weight and fat mass is well accepted. Ephedrine has proven time and time again that it is an effective weight loss agent through its ability to increase thermogenesis and quench appetite. However, the publicity concerning adverse reactions has led to its gradual withdrawal from use by many despite the perceived consequences of obesity. Many companies are now substituting Citrus aurantium for ephedra in their formulations. Citrus aurantium, an agent containing beta agonists, has been reported to aid in weight loss in two studies and increase thermogenesis, at least to some extent, in three studies. Colker et al. (1999) reported that in a double-blind, placebo-controlled, randomized study the subjects receiving a combination of Citrus aurantium, caffeine and St John's Wort, lost significant amounts of total body weight while on a strict diet and exercise. Those in the placebo and control groups who also were on the same restricted diet did not. However, intergroup analysis showed no statistical significance among the weight changes in the three groups. In contrast, the loss of fat mass in the test group was significantly greater compared to the placebo and control groups. Jones describes an open labeled study performed on 9 women. The subjects showed a mean of 0.94 kg lost during the first week when no product was given and 2.40 kg during the second week when a Citrus aurantium product was taken. Body weight losses were statistically greater during the second week compared to the first week. Since most clinicians would agree that the most weight loss should occur initially coinciding with a greater fluid loss during the first week, these differences are even more remarkable. Three studies reported increased metabolic rates when ingesting Citrus aurantium products, however, at least two of these studies were acute. At present, Citrus aurantium may be the best thermogenic substitute for ephedra. However, more studies are needed to establish this definitively.

Web sites to visit for unbiased opinions on popular weight loss supplements.

GENERAL

<http://seniorjournal.com/NEWS/Alerts/2007/7-01-05-WeightLossPills.htm>

HYDROXYCUT

http://www.ncbi.nlm.nih.gov/pubmed/17406200?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

HOODIA

<http://altmedicine.about.com/od/popularhealthdiets/a/hoodia1.htm>

The [U.S. Food and Drug Administration](#) rang in the New Year with a ban on the controversial supplement [ephedra](#). Spurred by the death of Baltimore Orioles pitcher Steve Bechler and the rising concerns of health professionals, the agency made the sale of products containing the dangerous substance illegal.

Yet, as millions of athletes continue to look for the competitive edge, what are the "ephedra-free" alternatives? What's in them? How are they being marketed? And, more importantly, what should you know about them? Here's a brief recap.



Not long ago, a colleague showed me a new product being marketed as an ephedra-free dietary supplement specifically for athletes. Press materials claimed the product complied with National Collegiate Athletic Association ([NCAA](#)) guidelines.

A closer look at the ingredients, however, revealed a compound called Citrus Aurantium (also known as Bitter Orange). This compound is similar to ephedrine, which is banned by the NCAA and the International Olympic Committee ([IOC](#)), and [pseudoephedrine](#), which is banned by the

IOC.* Yet, it is doubtful most athletes would make this connection.

* The IOC identifies a positive test for pseudoephedrine as a concentration in urine greater than 25 micrograms per milliliter.

Unfortunately this scenario is all too familiar, adding to the already growing concern that some ephedra-free products may be as harmful as those that actually contain the substance.

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HOW SAFE ARE EPHEDRA-FREE SUPPLEMENTS?

Susan Kundrat, M.S., R.D., L.D.

While athletes continue to seek a competitive advantage via supplements, sports health professionals must know and educate players about the risks associated with ephedra-free products. After all, in light of the FDA's recent actions, they're bound to proliferate in an already flooded market.

Still, many of the purported uses of these supplements lack solid research. Some supplements have the potential to interact poorly with certain medications and foods to produce potentially dangerous side effects. To help you help your athletes navigate the options during training and competition, here is a list of ingredients and effects to watch out for:¹

- Ephedra-free doesn't mean danger-free
- Ephedra-free ingredients
- Combine with caution: Mixing stimulants can be fatal
- Conclusion
- Contact Us
- www.gssiweb.com

EPHEDRA-FREE DOESN'T MEAN DANGER-FREE EPHEDRA-FREE INGREDIENTS

 [Download and Print Ephedra-Free Supplements Chart](#)

NAME	ALSO KNOWN AS ...	PURPORTED USES	EFFECTS
Bitter Orange	Green Orange, Kitjitsu, Citrus Aurantium	<ul style="list-style-type: none">- Appetite suppressant and weight loss- Gastrointestinal disorders	<ul style="list-style-type: none">- Bitter orange fruit, peel and juice contain the stimulant synephrine- May increase blood pressure

Black or Green Tea	Black Leaf Tea, English Tea, Chinese Tea, EGCG, Japanese Tea	<ul style="list-style-type: none"> - Improve cognitive performance - Reduce risk of cardiac disease, certain cancers and treat other common ailments 	<ul style="list-style-type: none"> - Contains caffeine. Consumption of more than 300 mg caffeine (or the equivalent of three or four 8-ounce cups of coffee) has been associated with adverse affects such as increased heart rate, headache and insomnia
Chromium	Chromium Picolinate, Chromium 3, Cr3+, Glucose Tolerance Factor	<ul style="list-style-type: none"> - Weight loss - Increase muscle mass and decrease body fat - Improve glycemic control in type 1 and 2 diabetes 	<ul style="list-style-type: none"> - Although studies have found some effectiveness with diabetes, the research for affecting body composition is not consistent
Cola Nut	Bissy Nut, Cola, Guru Nut, Kola Nut	<ul style="list-style-type: none"> - Short-term relief of mental and physical fatigue and depressive states - Migraines 	<ul style="list-style-type: none"> - Possibly unsafe when used in excessive amounts due to its caffeine content and stimulation of the central nervous system
Dill Weed Extract	American Dill, Dill Herb, Dillweed, Dilly, European Dill	<ul style="list-style-type: none"> - Diseases and disorders of the gastrointestinal tract, kidney and urinary tract 	<ul style="list-style-type: none"> - There is insufficient reliable information available about its effectiveness
DMAE	2-Dimethyl Aminoethanol, Deanol	<ul style="list-style-type: none"> - Enhance memory and mood - Increase energy and improve athletic performance 	<ul style="list-style-type: none"> - Side effects may include headache, drowsiness, insomnia and depression
Ginseng	American Ginseng, Panax Ginseng	<ul style="list-style-type: none"> - Increase energy - Stimulate immune function - Enhance athletic performance 	<ul style="list-style-type: none"> - Well-designed studies have not confirmed benefit to athletic performance - Use with caffeine-containing substances may enhance adverse central nervous system effects
Glucomannan	Konjac	<ul style="list-style-type: none"> - Weight loss - Blood glucose control - Reduce cholesterol - Constipation 	<ul style="list-style-type: none"> - Some studies demonstrate that glucomannan is possibly effective for these concerns, but it may interfere with common medications used to treat these conditions

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Gotu Kola	Brahmi, Centella, Hydrocotyle, White Rot	<ul style="list-style-type: none"> - Reduce fatigue and edema - Improve memory 	<ul style="list-style-type: none"> - May cause gastrointestinal upset, nausea, pruritus and hypersensitivity - Large doses might increase blood pressure, glucose and cholesterol levels
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Manufacturers of ephedra-free products also commonly combine stimulants with aspirin-like substances in an attempt to mimic the "ECA Stack" (i.e., blend of ephedrine, caffeine and [aspirin](#)). But that can be risky. Some products contain more than the recommended limit of 300 mg of caffeine per serving. And, in some cases, more than three times that amount is suggested throughout the day.

Guarana	Brazilian Cocoa, Paullinia, Zoom	<ul style="list-style-type: none"> - Weight loss - Enhance athletic performance - Reduce fatigue 	<ul style="list-style-type: none"> - Contains caffeine and is likely ineffective when used orally for improving short-term, high-intensity performance, anaerobic capacity, or power
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Kava Kava	Ava, Gi, Kawa, Intoxicating Pepper	<ul style="list-style-type: none"> - Reduce stress - Anxiety and depression - ADHD 	<ul style="list-style-type: none"> - May be effective for short-term anxiety - Safety concerns, especially with liver toxicity
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With the plethora of new "ephedra-free" supplements on the market, athletes will no doubt be interested in using them in misguided attempts to improve performance. As responsible professionals, we can help athletes understand the pros and cons of taking "ephedra-free" supplements and be a resource for providing accurate and up-to-date information.

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L-Carnitine	Vitamin B(t), Carnitine, D-Carnitine	<ul style="list-style-type: none"> - Enhance athletic performance 	<ul style="list-style-type: none"> - There is insufficient evidence for use as a performance-enhancer
Mate	Yerba Mate, Jesuit's Tea, Hervea	<ul style="list-style-type: none"> - Relieve mental and physical fatigue - Diuretic - Weight control 	<ul style="list-style-type: none"> - Can cause insomnia, nervousness, restlessness or other caffeine-related side effects

- Reinforce the fact that dietary supplements are not regulated. Some manufacturers may use potentially unsafe ingredients and make [inaccurate claims on labels](#).
- Explain the lack of consistency in products. You can cite a recent study from the University of Minnesota in which researchers found that, of 92 Echinacea products reviewed, two-thirds did not meet expectations for recommended

dosages and ingredients listed.²

- Help athletes understand that "ephedra-free" may still contain banned ingredients, no matter how the products are marketed. This puts players at risk for being noncompliant with NCAA rules and other important guidelines.
- Educate athletes on risky combinations, contraindications and potential side effects.

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References:

1 Natural Medicines Comprehensive Database: www.naturaldatabase.com

2 Archives of Internal Medicine, 2003;163:2290-2295

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