THE WORLD'S 10 MOST POWERFUL FAT-BURNING SUPPLEMENTS

NEW YOU in 22



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Natural Health Sherpa

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INTRODUCTION

When I decided to put together this master list of the very best fat-burning supplements that actually *do* something, I thought it would be interesting to go back and see what I wrote about fat-burning supplements a long time ago.

The very first edition of my book, *Living Low Carb*, came out in 2004—a decade ago as of this writing—and this is exactly what I wrote back then about fat-burning supplements.

"Memorize this: there are no supplements you can take for weight loss that will cause the pounds to just melt off without you having to do anything at all. None."

Well, ten years has passed since I wrote those words, and while I've changed my mind on quite a few things over the years, this statement isn't one of them. It's as true today as it was back then.

But that doesn't mean there aren't supplements that you need to take and it doesn't mean there aren't supplements that work. It just means you can't eat seven meals a day at McDonald's, never get off the couch, pop some "fat-burning" pill you bought off the internet, and expect anything at all to happen. Anything, that is, other than being 30-79 dollars poorer.

But the very fact that you're reading this report means that you're not "that guy" or "that gal". If you've gotten this far in the program to be reading this guide, you've put in your time, you've demonstrated your commitment, and you've already made quite a few important changes in your diet.

And you are precisely the kind of person for whom supplements can really help.

SO WHAT SUPPLEMENTS REALLY MAKE A DIFFERENCE?

Around the Natural Health Sherpa offices, we're all pretty fanatic about information, and we frequently go on collective "deep dives" into the literature on anything we're investigating or writing about. And supplements are no exception.

So my team and I rolled up our proverbial sleeves, and went to work.

Now, I'm going to be honest with you here. I'm very big on collaboration. I've never needed to be the "final word" on anything, and I'm always interested in what other experts have to say.

In fact, I think one of the reasons I'm considered a great educator and communicator is precisely because I know how to listen to what other people say. And there are a core group of people with whom I've consulted over the years, experts in areas ranging from neurology to nutraceuticals.

And one of the core group of experts I've come to rely on over the years is Dr. Dean Raffelock.

For our fat-burning supplement research project, I wanted the best possible person as a scientific advisor, and frankly, there's no better person than Dr. Raffelock. He's a quadruple board certified physician with 37 years of experience seeing thousands of *real* patients. For 37 years, Dr. Raffelock has done extensive lab work on patients, before, during and after treatment.

So he has a mountain of research at his fingertips that he can reference to see *exactly* how each of these supplements affect real people. He can see the results from the way his patients look and feel, but more

important, he can look under the hood to see how the underlying metabolic machinery has been affected, for better or worse.

I worked closely with Dr. Raffelock for 6 months combing over the published research, but also plumbing the depths of his considerable clinical experience to put together a master list of what I call “fat-loss enablers”.

These ingredients *truly* work.

Each has solid human research behind it, and each has multiple biochemical mechanisms by which it can stimulate fat loss.

Seven ingredients made the cut.

#1: CHROMIUM PICOLINATE



Simply put, chromium is "insulin's little helper."

Insulin is the hormone secreted by the pancreas in response to an elevation in blood sugar. Blood sugar rises the most when you eat carbs, and for certain susceptible people—probably most of the people reading this—it rises *a lot*. This is a big problem, because it causes the pancreas to secrete even more insulin, which, you may remember, is nicknamed the "fat-storage hormone" for a very good reason.

Insulin not only causes your body to *make* more fat, it also causes you to store more fat. It does this by essentially locking the doors to the fat cells, making fat burning impossible. (Lower insulin means *less* fat created and *more* fat released.)

Enter chromium, which is like a "Sherpa" for insulin. Known technically as an "insulin potentiator" it helps insulin to do its primary job of escorting the extra sugar in your bloodstream into the muscle cells. Less insulin is needed to get the job done, because, thanks to chromium, the insulin that's already *there* is working more effectively.

The fat cells, freed from the tyranny of insulin, are finally able to "open their doors" and release fatty acids which can now be burned in the mitochondria as energy. (And we also know how *that* story ends—with a fat-burning metabolism and vibrant health.)

Research by Richard Anderson at the USDA[1] showed that 1,000 mcg of chromium picolinate given to type 2 diabetics produced a beneficial effect on glucose, insulin, cholesterol, and hemoglobin A1c levels (an important measure of blood sugar).

Another study showed that it had a significant positive effect on fasting insulin levels in those subjects who had high fasting insulin levels to begin with (precisely the kind of folks who have tremendous trouble burning fat!).[2]

Interestingly, a high-sugar and processed-food diet actually drains chromium from the body, so the paradox is that those who need it the most have the least of it! Infection, pregnancy, and stress may also reduce levels.

Even those eating a lot of healthy foods like seeds, nuts, and—for those who tolerate them, grains—may be low in chromium, because many of these foods—especially soy—contain *phytic acid*, which decreases the absorption of chromium (and other minerals).

Remember, insulin not only *stores* fat, it also helps *make* it. Insulin's first stop after leaving the pancreas is the liver, where it helps turn sugar into fat. So insulin makes you fat in two very different, but extremely important ways. Chromium helps lower blood sugar by making insulin perform better, which in turn means you need less of it to get the job done. That's why chromium earned an important place on this list.

#2: GREEN COFFEE BEAN EXTRACT



Green coffee bean extract became popular for weight loss after it was mentioned on *The Dr. Oz Show* in 2012, wherein it was referred to it as "the fat burner that took the diet world by storm". *The Dr. Oz Show* featured green coffee bean extract as a "fat burner that helps women lose weight."

Dr. Oz tested green coffee bean extracts on 100 women who took part in the experiment. They were asked to log their diet in a food journal during the 2-week trial period. The group was divided in 2. One group was given 400 mg of green coffee bean extract, half an hour before breakfast, lunch and dinner. The other group was given a placebo.

At the end of the 2-week period, the women who were given green coffee extracts lost 2 pounds on average; the group who were given a placebo lost only 1. And that's without any significant change in diet or exercise.

Now, great as Dr. Oz is, the television demonstration was hardly a peer-reviewed, published study, so there's reason to be skeptical of the results, however promising they might be. But the active ingredient in green coffee beans—a natural plant compound called ***chlorogenic acid—***HAS been well studied by scientists and has been found to have powerful health and fat-loss benefits.

In animal studies, green coffee bean extract reduced both visceral fat and body weight.[3] And a randomized, placebo-controlled study of overweight subjects receiving green coffee extract observed significant reductions in body weight, body mass index and percent body fat.[4]

"The results are consistent with human and animal studies and a meta-analysis of the efficacy of green coffee extract in weight loss," concluded the researchers, adding that green coffee bean extract "may be an effective nutraceutical in reducing weight in pre-obese adults, and may be an inexpensive means of preventing obesity in overweight adults."[5]

The presence of chlorogenic acid in the body triggers the liver to stop releasing glucose into the blood stream. In addition, scientists have found that green coffee bean extracts reduce the activity of the enzyme *glucose-6-phosphatase*.

Why should we care? Because glucose-6-phosphatase is a big player in promoting the release of glucose stored in the liver and sending it into general circulation. Lowering glucose-6-phosphatase means lower blood sugar.

Lower levels of blood sugar means lower levels of insulin. Lower insulin means less fat-making. And with insulin finally at a lower, healthier level, the doors to the fat cells can finally open, and they can release their "goodies" into the bloodstream to be burned as fuel. The body can now get the energy it needs from deposits in adipose (fat) tissues, thus stimulating weight loss.

Although extracts from green, or unroasted, coffee beans have been studied for many years it was not until 2012 when a specific weight loss research study demonstrated successful, significant weight loss from taking green coffee extract supplements.

Dr. Joe Vinson of the University of Scranton reported that study participants who were given varying doses of the extract lost an average of over 17 pounds in 22 weeks. Dr. Vinson also reported that there were no negative side effects reported by any of the participants taking the green coffee.

It's important to remember that in this particular study there were no significant changes made to the diet of the subjects over the course of the study. (Imagine what might have happened if they had also been eating right!)

Green coffee bean extract should contain at least 45% chlorogenic acid. More than 45% is okay, but pills with less than this amount have not been tested in studies that demonstrate weight loss.

IMPORTANT NOTE:

This is a good time to take a little editorial "teaching moment" and remind you why supplements are most effective when you're already doing the right stuff.

- Forskolin will stimulate HSL for fat burning, but if you're eating a ton of high-carb food and your insulin levels are constantly elevated, that HSL won't stand a chance.
- Similarly, forskolin's stimulation of HSL will get fatty acids out of your fat cells and into the bloodstream where they can finally fuel your exercise sessions, but that won't help you much if you're sitting on the couch all day.
- The point here is that supplements can be very effective helpmates in your travels on the fat loss journey—but they can't do the work for you. They can just make the work a bit easier.

#3: COLEUS FORSKOHLII



Coleus forskohlli is a plant with a long and storied history. It's been used since ancient times to treat heart disorders, blood pressure, chest pain (angina) and asthma, and coleus forskohlii is a staple in Ayruvedic (Indian) medicine. There are more than 5,000 studes on the medicinal properties of forskolin.[6]

The reason the planet is so valued is an active ingredient in the root called *forskolin.* And forskolin is turning out to have some pretty interesting properties when it comes to fat loss and weight management.

In clinical studies, forskolin decreased body fat percentage and fat mass compared with placebo treatment.[7,8] Men taking forskolin showed a significant 11% decrease in body fat percentage, plus an very nice 6% increase in lean muscle mass to boot.[9] Coleus forkohlii supplements have also been shown to help prevent weight gain, particularly in women.[10]

The short version of what forskolin does is this: it sets in motion a whole metabolic chain of events that lead to the breakdown of fat in animal and human fat cells.

Stick with me here, because this can be complicated. We're going to do the metabolic equivalent of "follow the money", except in this case we're going to follow the *pathways* that lead to fat loss.

Forskolin acts directly on an enzyme that activates an important messenger in the body known as cAMP (cyclic Adenosine Monophosphate). Now cAMP is a major player in the fat loss biosphere. It regulates the body's calorie burning response to food, it increases the body's basal metabolic rate, *and* it increases utilization of body fat.

Simply put, more cAMP equals more fat released from the fat cells into the bloodstream. And fat has to be released from the fat cells before it can be burned!

The other thing cAMP does—and it's a biggie—is trigger HSL (hormone-sensitive lipase) activity.[11] HSL is *directly*, intimately involved in fat burning, and HSL is one of those hormones that essentially closes up shop when insulin levels are high.

HSL essentially breaks down triglycerides (the storage form of fat that's hanging out in your fat cells), and turns them into free fatty acids which then get turned loose into the bloodstream to be used as fuel. Once you're no longer primarily a sugar burner this will help you actually burn *fat* (rather than *sugar*) while exercising. And you'll have tons more energy doing it.

So by stimulating cAMP accumulation, which in turn stimulates HSL, which is primarily responsible for releasing fat that's stored in fat cells so it can be burned by your other cells for energy, forskolin effectively stimulates fat burning by getting the ball rolling.

#4: CINNAMON



Sometimes a food or supplement hasn't been specifically tested for weight loss, but has a known physiological mechanism that is an important part of the weight loss equation. Cinnamon is a perfect example.

While there are no "weight loss studies" on cinnamon per se, there are a ton of studies on cinnamon and blood sugar. And since elevated blood sugar is the first in a series of metabolic events that lead inexorably to elevated insulin, fat storage, and stalled fat burning, anything that can reasonably be expected to lower blood sugar and thus reduce insulin levels could be reasonably assumed to be a huge boon to fat loss.

Enter cinnamon.

C. Leigh Broadhurst, PhD, a researcher at the US Department of Agriculture (USDA) says many plants and individual phytochemicals can lower blood sugar, but many of them accomplish this at a price of imposing some nasty toxic costs on the body. Not cinnamon. Broadhurst and her team at the USDA identified phytochemicals in cinnamon called *chalcone polymers* that increase glucose (sugar) metabolism in the cells twenty-fold or more. And with nary a side effect in sight.

USDA researchers tested the effects of forty-nine different herbs, spices, and medicinal plants on blood sugar metabolism and published their results in the prestigious *Journal of the American College of Nutrition*. Cinnamon was the star of the show. The active ingredient—*methylhydroxychalcone polymer*, or MHCP—seems to mimic insulin function, increasing the uptake of sugar by the cells and signaling certain kinds of cells to turn glucose (plain blood sugar) into glycogen (the storage form of sugar).

In 2003, researchers from the Department of Human Nutrition at NWFP Agricultural University in Pakistan, working with Richard Anderson, PhD, from the Beltsville Human Nutrition Research Center in Maryland, tested the effects of cinnamon on blood glucose as well as other important blood measures like triglycerides and cholesterol in people with type 2 diabetes: They found that even 1 gram of cinnamon a day reduced blood sugar (18–29%), and triglycerides (23–30 %).

More recently, in a series of ingenious experiments, Harry Preuss, MD, CNS—the president of the American College of Nutrition and a professor at Georgetown University—found that cinnamon reduced the systolic blood pressure of rats with high blood pressure. Interestingly, in these particular experiments the cinnamon didn't reduce the rodents' blood sugar, but it *did* reduce their insulin levels.

And since insulin is the "fat-making" hormone that also puts the brakes on fat burning, reducing insulin levels is the first, primary step in losing weight. With high levels of insulin, it's virtually impossible to burn fat.

But cinnamon's effects haven't just been demonstrated on lab animals. A 2014 study found that cinnamon had therapeutic benefits on fasting blood sugar, total cholesterol, triglycerides and C-Reactive protein (an important measure of systemic inflammation) in actual human beings![12]

Another study showed that it produced a "notable" reduction in blood pressure, (though more research on this is certainly warranted).[13] And a study by Dr. FS Azzeh[14] found that cinnamon in combination with green tea and ginger—in healthy, young subjects, no less—lowered postprandial (after eating) blood sugar better than each ingredient used alone.

This is particularly interesting to us, since it confirms our suspicion that the real power of "fat-burning" supplements can be best seen when they're used synergistically.

Cinnamon helps lower blood sugar ***and*** insulin. It's a natural supplement for a comprehensive fat-loss program.

#5: IRVINGIA GABONENSIS (AFRICAN MANGO SEED EXTRACT)



According to research published in 2009 the journal *Lipids in Health and Disease*, an extract made from the African mango (irvingia gabonensis) may help overweight people lose weight. And it does this by positively affecting leptin, which, you'll recall, is the "full hormone"—that is, the more you have of it the more full you feel and the less hungry you are.

In the study, 102 overweight or obese adults were randomly assigned to receive either 150 mg of the African mango seed extract or a placebo, twice daily for 10 weeks. The participants were told not to change anything else and to just keep going with their normal diet and exercise habits.

The group taking the irvingia gabonensis had a significant amount of weight loss, with participants losing an average of a whopping 28 pounds by the end of the study. (The placebo group showed almost no change in weight.) Nice "side effect": the irvingia gabonensis group *also* saw a decrease in their LDL cholesterol, and, more importantly, in their blood sugar.[15]

Recently researchers at the Department of Complementary Medicine at Peninsula Medical School, University of Exeter (UK) published a systematic review of the evidence from randomized controlled trials involving the use of irvingia gabonensis. Though the scientists did feel that more (and better) research is needed—it almost always is—they pointed out that all of the randomized control trials included in the review reported statistically significant reductions in body weight and in waist circumference.[16]

The first double-blind study of irvingia gabonensis in humans took place in 2005. Twenty-eight subjects received irvingia while twelve were given a placebo. All subjects continued to take in their "normal" amount of calories. After 30 days, those taking the irvingia lost 12.3 pounds. And if that weren't enough, they also experienced significant reductions in LDL cholesterol and triglycerides while at the same time seeing their HDL cholesterol go up.[17]

Though irvingia gabonensis works on several pathways, the *primary* way it helps you lose fat is by affecting *leptin*. Leptin, you'll recall, tells your brain you've had enough food, and shuts off your appetite—and it boosts your metabolism.

But obese people have very high levels of leptin, which makes no sense at all until you realize that the leptin these folks have is not getting to the brain to deliver its message. This is a called *leptin resistance*, and it's a huge impediment to fat loss.

When leptin binds with something called C-reactive protein—a substance found in the blood that indicates inflammation—the binding neutralizes the natural, appetite-reducing effects of leptin. More leptin accumulates in the blood of obese people because the leptin isn't being picked up by leptin receptors on cell membranes (i.e. "leptin resistance").

By lowering C-reactive protein, irvingia gabonensis helps reduce leptin resistance, allowing leptin to do its job of turning down your appetite and turning UP your metabolism.

#6: GREEN TEA EXTRACT



The late great nutritionist Dr. Shari Lieberman, author of *The Real Vitamin and Mineral Book*, considered the active compound in green tea to be one of the best weight loss supplements available, and I agree.

Compounds in green tea stimulate what's called *thermogenesis*, or the creation *(-genesis*) of heat (*thermo*). Creating more thermogenesis is a huge metabolic and fat-burning boost—it's what's meant by the term "raising your metabolism". The particular compound responsible for the increase in fat-burning ability is called EGCG (*epigallocatechin gallate*), and it works by increasing how long your *noradrenaline stays active* —a hormone that basically turns up your fat burning metabolism.[18]

That's an important point because one thing you WANT to stay away from in the fat-loss supplement world are ingredients that stimulate your central nervous system—it results in a short-term energy and fat loss loan that's paid back 10-fold later.

It's also important to note that the effect of EGCG was totally independent of the effect of caffeine, which is another win for our non-stimulant search since caffeine exerts its effects by stimulating your nervous system, which as we just pointed out, is something you want to stay away from. So don't let anybody tell you that caffeine is necessary for either energy OR fat loss.

EGCG also turns up *brown fat metabolism*.[19] Brown fat—also known as BAT (brown adipose tissue)—is a particular kind of fat in the body, the purpose of which is to generate heat and to burn calories. It's exactly the kind of fat you *want* to have (as opposed to white fat, for example). Adults don't have a ton of the stuff, but EGCG helps make sure that you get the most out of the brown fat you have, meaning you'll generate more heat (thermogenesis) and burn more calories when at rest.

Green tea extracts have been shown to increase fat burning as well as metabolic rate (the amount of calories your burn) for up to twenty-four hours.[20,21] In animal studies, green tea extracts have been shown to have a mild anti-obesity effect,[22] and if that were not enough, the EGCG in green tea has been shown to enhance insulin activity.[23]

The key components responsible for green tea's fat-loss benefits are the polyphenol compounds that increase metabolic energy expenditure. Scientists realized that these polyphenols would be more effective if their absorption from the intestinal tract could be increased and thus deliver more of the metabolically active agent to the tissues.

Green Tea Phytosome™ is the result of a unique, patented process that binds green tea to phosphatidylcholine. This increases the absorption, biological activity, and delivery of green tea, making it the most beneficial form of green tea extract. Studies show that the EGCG concentration in human blood increased by almost two-fold with green tea phytosome supplementation vs. regular green tea supplementation.

The bottom line is that with this new phytosome technology you're absorbing almost twice as much of the metabolism-boosting, fat-burning EGCG gleaning dramatically more benefit.[24]

#7: RHODIOLA ROSEA



The connection between stress and fat—particularly belly fat—is well-established and non-controversial. The stress hormone, cortisol, sends a very specific message to the body to store fat, particularly around the abdomen. This is the primary reason even thin people often have a little "pouch" around the middle. There's even a name for this pouch—we call it "stress fat".

Enter rhodiola.

Rhodiola rosea is an adaptogenic herb, which means it acts to *reduce* the high levels of stress hormones that create belly fat.

In a 2002 research review published by the American Botanical Council,[25] it was noted that numerous studies of rhodiola (in both animals *and* humans) have demonstrated that it helps prevent fatigue and stress.

It also has a few "side effects", like acting as an antioxidant, enhancing the immune system, and even increasing sexual energy. And a 2011 review of 11 placebo-controlled human studies confirmed those findings.[26]

The great Tieraona Low Dog, MD, one of the world's great experts on herbal medicines told Andrew Weil, MD, that rhodiola was one of her favorite herbs for patients suffering from "21st century stress", i.e. fatigue, concentration problems, low energy and mental fog.

Stress reduction is one of the five major pathways to building health and a fat-burning metabolism. Stress is a major cause of fat accumulation, especially belly fat. The stress hormone cortisol sends signals to the body to store fat around the middle, *and* to break down muscle (which lowers your metabolism even further).

Rhodiola helps lower stress. Less stress means less fat making. It's that simple.

DO I REALLY HAVE TO BUY ALL THOSE SUPPLEMENTS?

Okay, now we know what works. The next logical question is, “Now what?”

Do we recommend buying all of these? What doses are ideal? How do they work together? And what are the best—and most reasonably priced—brands?

Not easy questions to answer. So we went shopping.

The first thing we found out was that if you were going to buy and use all seven of these supplements it would cost a fortune—literally $200 - $300 or more for high potency, non-toxic, effective versions of each of these. So we decided to see if there were any good, high-quality “combo” products that contained all seven of the top ingredients in a meaningful dosage.

We looked. And we looked some more. And we asked around.

But nothing—it just doesn’t exist.

So…. we decided to do it ourselves.

The time was right and luck was with us. Shortly after the time he started working with us as an advisor, Dr. Raffelock decided to retire from his practice of 37 years and move to Oregon. I’m thrilled to say that we were able to snatch him up!

We gave Dr. Raffelock a mandate: Design the *ultimate* fat-burning supplement. It has to be based on science, it has to produce real results, and it has to be affordable and safe.

After 6 months of tinkering, testing and refine, Dr. Raffelock knocked it out of the park. You can find out more about it here.

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