



ApplePhenon® “An Apple-a-Day...”

By William Sears, MD

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The Unique Health Benefits of ApplePhenon®

Take it from a long-time Doctor—Age-old wisdom teaches: “An apple a day keeps the doctor away” – especially if its ApplePhenon®!

APPLEPHENON® – A SMART NUTRITIONAL SUPPLEMENT	
<i>Qualities of a Smart Supplement</i>	<i>ApplePhenon</i>
• Needed by most consumers	✓
• Supported by solid science	✓
• High bioavailability (highly absorbed)	✓
• Targets the root cause of most diseases – inflammation	✓
• Highly effective and powerful antioxidant	✓
• Contains three nutrients consumers need most, but often eat the least	✓
• Promotes blood vessel health	✓
• Supports weight and waist-size management	✓

What is ApplePhenon®?

ApplePhenon® is an extract from apples harvested during the absolute most nutritious phase of their growth cycle, and its effects are truly phenomenal. The class of antioxidants that it contains is called polyphenols. Anytime you see the word “poly” in nutritional literature, think “many!” The greatest supplements are those that are highest in a nutritional quality called *synergy*, meaning they are a combination of many nutrients. Each nutrient helps the others perform better, sort of like a basketball team is likely to score more points with five players rather than only one.



The healthiest extract from the healthiest apples. The three antioxidants, or polyphenols, in ApplePhenon® are: procyanidins, carboxylic acids, and catechins. And this extract from a unique apple is protected by three U.S. patents. If you want to extract the best nutrients from an apple, you start with the most nutritious apples, and that **mother apple** is the one that gives birth to ApplePhenon®. I call the apples from which ApplePhenon® is extracted **mother apples** because they come from the region of the earth where the apple species originated—Central Asia. And they're picked when they're young and immature – only about 2 cm – 4 cm (less than 1 inch to 1.6 inches) in diameter – because that's when these **mother apples** have their peak quantity of health-giving polyphenols. ApplePhenon® has been shown by laboratory analyses to have up to ten times the polyphenol content of other apple products. And as you'll learn later, consuming the polyphenols and other nutrients present in ApplePhenon® leads to a variety of health benefits. In fact, there are seven distinct clinically-validated health benefits for ApplePhenon® as evidenced in over 50 proprietary studies costing over \$15 million. Of the 50+ studies on ApplePhenon®, 17 were state-of-the-art human clinical studies using the gold standard of scientific research as double-blind, placebo-controlled studies. The science showing the healthful effects of ApplePhenon® really shines!



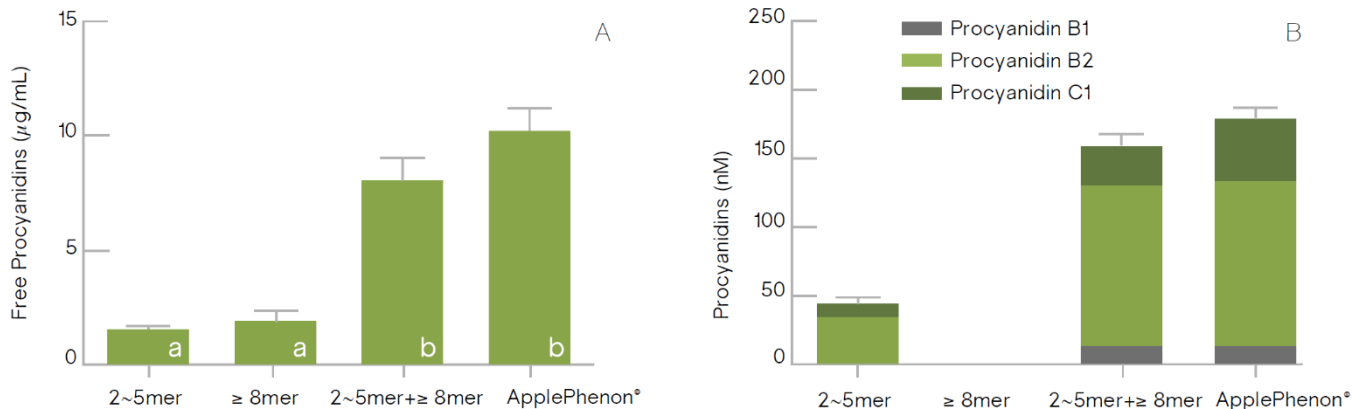
The more bitter the better. The fact that these apples are picked at the pre-ripening stage when they are highest in antioxidants is a top *Unique Selling Point* of ApplePhenon® – just like the more bitter 80 percent dark chocolate contains more antioxidants than the sweeter 50 percent does. The ApplePhenon® apples are harvested at their bitter stage when their antioxidant levels are highest. A bitter apple extract translates to a better-for-the-body supplement.

Clean and safe. And a cleaner apple is better for the body. Besides being the most nutrient-dense apple because of when it's harvested, it's one of the cleanest apples. Unlike most apples that reek with pesticides, the ApplePhenon® **mother apple** is not tainted with pesticides. It's from the apple species' native habitat in Central Asia where it grows naturally, without the use of pesticides, herbicides, man-made fertilizers or chemicals of any kind. And ApplePhenon® has been proven safe in many human clinical trials and pre-clinical animal studies.

So you have the best science about the best apple picked at the best time when it's rich in some of the best antioxidants. These features will lead the brain of the consumer to conclude: "I like it...I need it."

Nutrients safely extracted. The next fact to consider in smart-supplement selecting is, "are the nutrients that are in the apple safely extracted and protected from harm on the way from apple into the finished supplement?" This is another area where ApplePhenon® shines: a proprietary gentle extraction process protects the antioxidant nutrients from being damaged so they are, in biochemical speak, "biologically active" – they are delivered in the supplement just as they were in the original apple.

ApplePhenon® is highly bioavailable. High on the list of smart supplement shopping is not only what nutrients are in the finished supplement, but how high is the percentage of these nutrients that go from the intestine into the bloodstream – a concept called bioavailability. Again, ApplePhenon® is phenomenal in its high bioavailability, showing that compared with many other antioxidant supplements, a high percentage of what’s in ApplePhenon® is absorbed into your bloodstream where it can begin traveling throughout the body and doing its job.



Free non-conjugated procyanidins in rat plasma 2 hours after administration

A – Free proanthocyanidins analyzed by Porter method (expressed as procyanidin B2)

B – Total amounts of procyanidins B1, B2 and C1 by HPLC/MS (Shoji, 2006)

ApplePhenon® Key Facts

- **Highly Researched:** Supported by over \$15 million medical research investment resulting in more than 50 publications including 17 double-blind, placebo-controlled human clinical studies
- **Patented:** Protected by 5 international product, process and use patents
- **Trademarked:** Worldwide trademark registration
- **Tested:** Clinically validated for 7 different health benefits
- **Highly Bioavailable:** Absorbs quickly and easily from the gut into the bloodstream
- **Powerful:** Up to 10X the polyphenol content of other apple products
- **Safe:** GRAS (Generally Recognized as Safe) in USA
- **Immature Apples:** Extracted from immature apples from the “Land of the Original Apple”
- **Clean:** Grown without pesticides, herbicides, chemical fertilizers or other chemicals
- **Water Soluble:** Suitable for beverages, cosmetics and dental products
- **Highly Stable:** 36-month shelf life
- **Exclusive:** BGG is the worldwide exclusive owner of the ApplePhenon® trademark and intellectual property

The Medical Research of ApplePhenon®

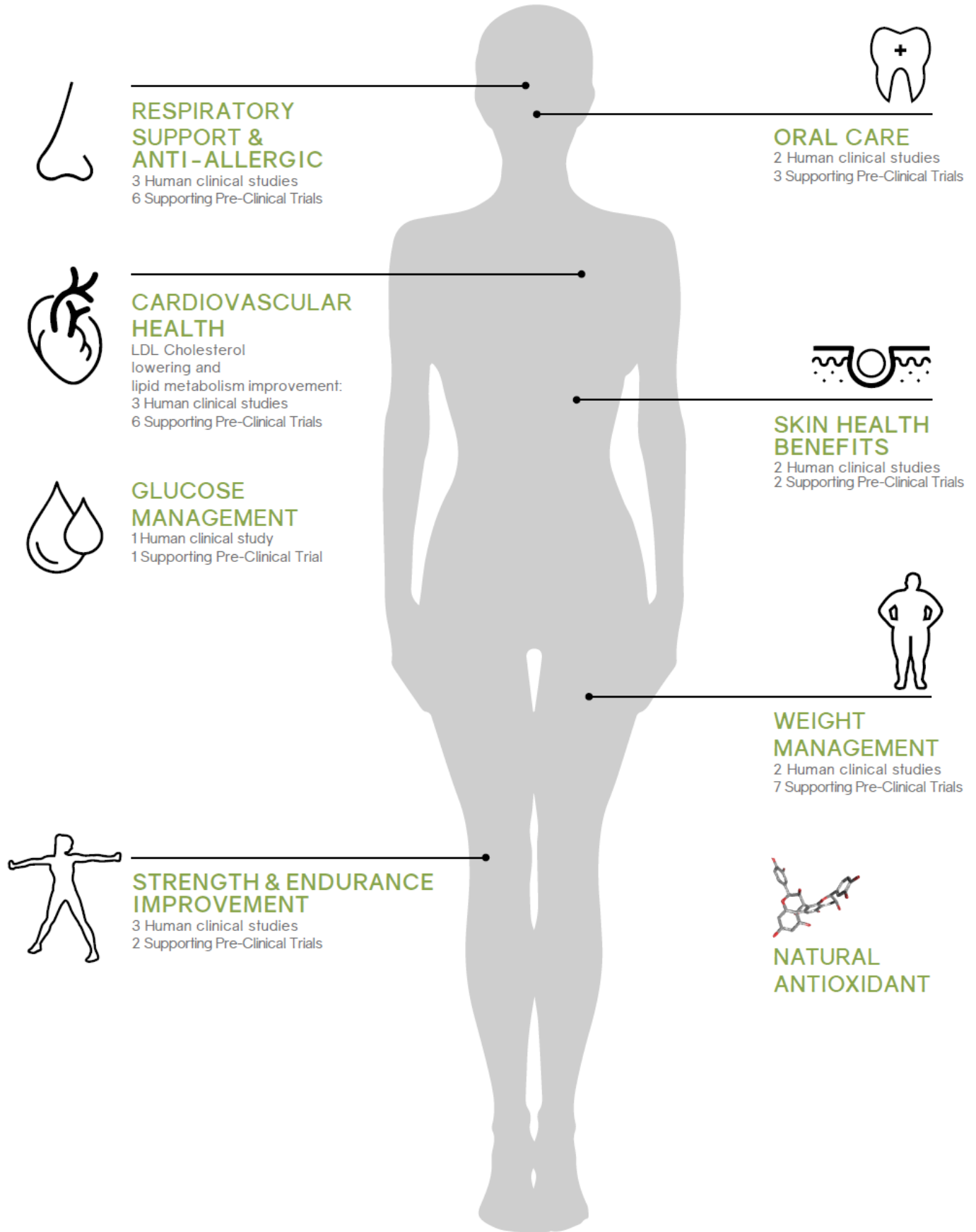
A full review of the 50+ published studies on ApplePhenon® would result in a book as compared to a white paper. So instead of going through each study, I'll focus on the most important results from a few key studies that will lend an understanding of the health-giving power of this unique apple extract. This review will zero in on most of the human clinical trials, but will also touch on a small handful of the many pre-clinical studies done as animal models. (For a complete review of ApplePhenon® research, please contact BGG at support@bggworld.com)

Healthful Effects of ApplePhenon® Shown by Human Clinical Science

The health benefits of ApplePhenon® are based on its anti-inflammatory and antioxidant properties. They can be summarized by ApplePhenon®'s effects on the "Smart Seven:"

1. **Cardiovascular Health**
2. **Weight Management**
3. **Glucose Management**
4. **Respiratory Support & Anti-Allergic**
5. **Skin Health Benefits**
6. **Strength & Endurance Improvement**
7. **Oral Care**





**RESPIRATORY
SUPPORT &
ANTI-ALLERGIC**
3 Human clinical studies
6 Supporting Pre-Clinical Trials



ORAL CARE
2 Human clinical studies
3 Supporting Pre-Clinical Trials



**CARDIOVASCULAR
HEALTH**
LDL Cholesterol
lowering and
lipid metabolism improvement:
3 Human clinical studies
6 Supporting Pre-Clinical Trials



**SKIN HEALTH
BENEFITS**
2 Human clinical studies
2 Supporting Pre-Clinical Trials



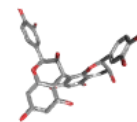
**GLUCOSE
MANAGEMENT**
1 Human clinical study
1 Supporting Pre-Clinical Trial



**WEIGHT
MANAGEMENT**
2 Human clinical studies
7 Supporting Pre-Clinical Trials



**STRENGTH & ENDURANCE
IMPROVEMENT**
3 Human clinical studies
2 Supporting Pre-Clinical Trials



**NATURAL
ANTIOXIDANT**

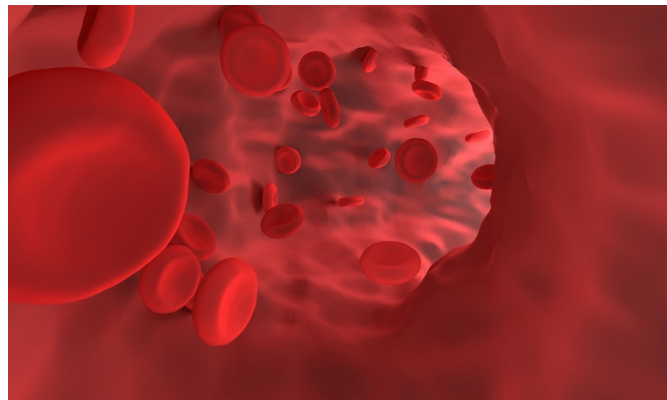
Better Blood Vessels – Better Health: The Cardiovascular Benefits Of Applephenon®

The most compelling science supporting “the ApplePhenon® effect” is on cardiovascular health, specifically blood vessel health. This is a very important marketing concept since one of the top medical teachings is:

Every organ in the body is only as healthy as the blood vessels supplying it

The better your blood vessels, the better your brain, eyes, heart, gut, skin, muscles, joints, and every other organ. A top medical truism that we doctors have long appreciated is that every organ of the body is only as healthy as the blood supply to it. The root cause of nearly every major illness – cardiovascular disease, cerebral vascular disease, diabetes, Alzheimer’s, inflammation, and the long list of “-itis” illnesses (nearly all the diseases you don’t want to get), is a sick and insufficient blood supply to various organs. And if your blood vessels are clogged with cholesterol and triglycerides, they can’t ensure proper blood supply to your organs.

ApplePhenon® improves blood supply. ApplePhenon® is a powerful antioxidant and anti-inflammatory as I’ll discuss later. Since oxidation and inflammation are the root cause of most blood vessel disease, it would make sense to eat and take powerful antioxidants and anti-inflammatories to improve your blood vessels. Good science and good sense go together. Think of all the tissues of your body, especially vulnerable tissues like those in the brain, gut and heart – like a garden. What do you need to grow a healthy garden? Simply put, you need to feed, fertilize and irrigate it. That’s exactly what healthy blood vessels do for your brain garden, your gut garden, and all the other organ gardens throughout your body.



*ApplePhenon® helps keep your blood
flowing smoothly*

Blood vessel health depends upon the lining of the vessel, called the endothelium (or what I call the “silver lining”) being smooth. The smoother the lining and the less plaque buildup, the more relaxed are the walls of the blood vessels, and the better the blood flow. The root cause of blood vessel disease and cardiovascular disease is the build-up of inflammation and blood lipids in the lining of the blood vessels and within the walls of the blood vessels. I call the build-up of these “inflammatory markers” (IL-6, TNF, and so on...) and blood lipids (LDL cholesterol and triglycerides) simply “sticky stuff.” This term “sticky stuff,” a term I coined nearly twenty years ago, is a simple way to remember the markers your doctor measures in your yearly routine blood

tests. The build-up of the sticky stuff in the lining of the arteries and in the walls of the arteries lessens the blood flow. The less blood flow to an organ, the less healthy the organ is. Antioxidants and anti-inflammatories in general, and ApplePhenon® in particular, decrease the build-up of sticky stuff in the lining and walls of the arteries.

Even more simply put, ApplePhenon® reduces sticky stuff accumulation within the lining and walls of the blood vessels. Oxidation and inflammation, the root causes of blood vessel disease, is the accumulation of biochemicals and lipids in the lining and walls of the blood vessels that make the linings rough and sticky and the blood vessel walls stiff. Stiff and sticky cause disease of the blood vessels; smooth and elastic, or smooth and stretchy, creates blood vessel health. And that’s what ApplePhenon® does – helps blood vessels be less sticky and more stretchy.

Besides the antioxidant surveys I’ll discuss in the next section which support ApplePhenon®’s cardiovascular health benefits, there are three gold standard human clinical trials showing how it removes sticky stuff from our blood vessels. The first clinical trial study is very noteworthy in that it established a dose-dependent effect for ApplePhenon® in significantly improving blood lipid chemistry in subjects with slightly elevated cholesterol levels in just four weeks. Results showed:

- **Total cholesterol levels decreased significantly and dose-dependently versus control**
- **LDL cholesterol decreased significantly as well**
- **HDL (good) cholesterol increased significantly**

In only four weeks, ApplePhenon® completely overhauled the lipid profile of people with slightly high cholesterol levels. And the fact that this study demonstrated that ApplePhenon® works dose-dependently clearly adds additional weight to these findings (Nagasako-Akazome, 2005).

The next study in this area was interesting in that it tested both humans and mice and found similar results in both species. This study touched on all three common areas of medical research—in-vitro testing; an animal model; as well as a human clinical trial. The results showed that both ApplePhenon® as a whole as well as the procyanidin component of ApplePhenon® (which is approximately 60% of the total polyphenol content) inhibited pancreatic lipase activity in-vitro. The more noteworthy part of this study was a test of how ApplePhenon® would affect triglyceride absorption in mice and also in humans. Both species were given ApplePhenon® and at the same time, triglycerides were ingested. The people and the mice taking ApplePhenon® did not show an increase in plasma triglyceride levels, while the control groups did. The conclusion was that ApplePhenon® “inhibited triglyceride absorption by inhibiting pancreatic lipase activity in mice and humans” (Sugiyama, 2007).

The final human clinical study showing how ApplePhenon® can reduce sticky stuff was done on 71 moderately obese men and women with a body mass index ranging from 23 to 30. This study

compared the effects of ApplePhenon with an extract from hops to see which might have cardiovascular benefits. Subjects took either 600mg of ApplePhenon each day, 600mg of hops extract, or placebo for a 12-week period. The results of this study showed that:

- **ApplePhenon® significantly decreased total cholesterol levels**
- **ApplePhenon® also significantly decreased LDL cholesterol levels**
- **600 mg of ApplePhenon® performed markedly better than 600 mg of hops extract**
- **The level of adiponectin also improved compared to the control group (adiponectin is a protein hormone that modulates a number of metabolic processes including glucose regulation and fatty acid oxidation) (Nagasako-Akazome, 2007)**

In addition, these human studies are corroborated by more than ten different pre-clinical trials showing cardiovascular benefits from consumption of apple polyphenols.

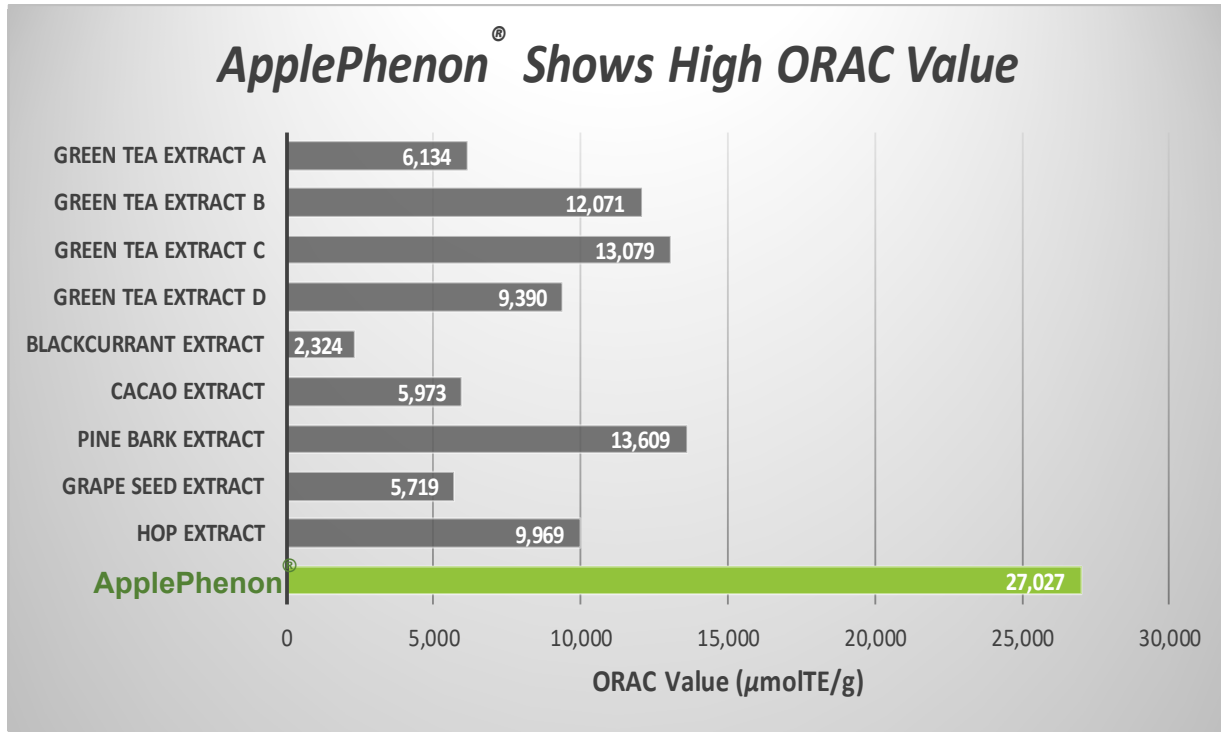
Powerful Antioxidant and Anti-Inflammatory

ApplePhenon® has been documented to provide both antioxidant and anti-inflammatory protection to cells. These protective properties are the key building blocks from which ApplePhenon®'s cardiovascular and other health benefits emanate.

Although certainly not a perfect antioxidant test or the end-all antioxidant measurement that it was once touted to be, the ORAC (Oxygen Radical Absorbance Capacity) analysis is a good way to get a general idea of the strength of an antioxidant against another antioxidant.



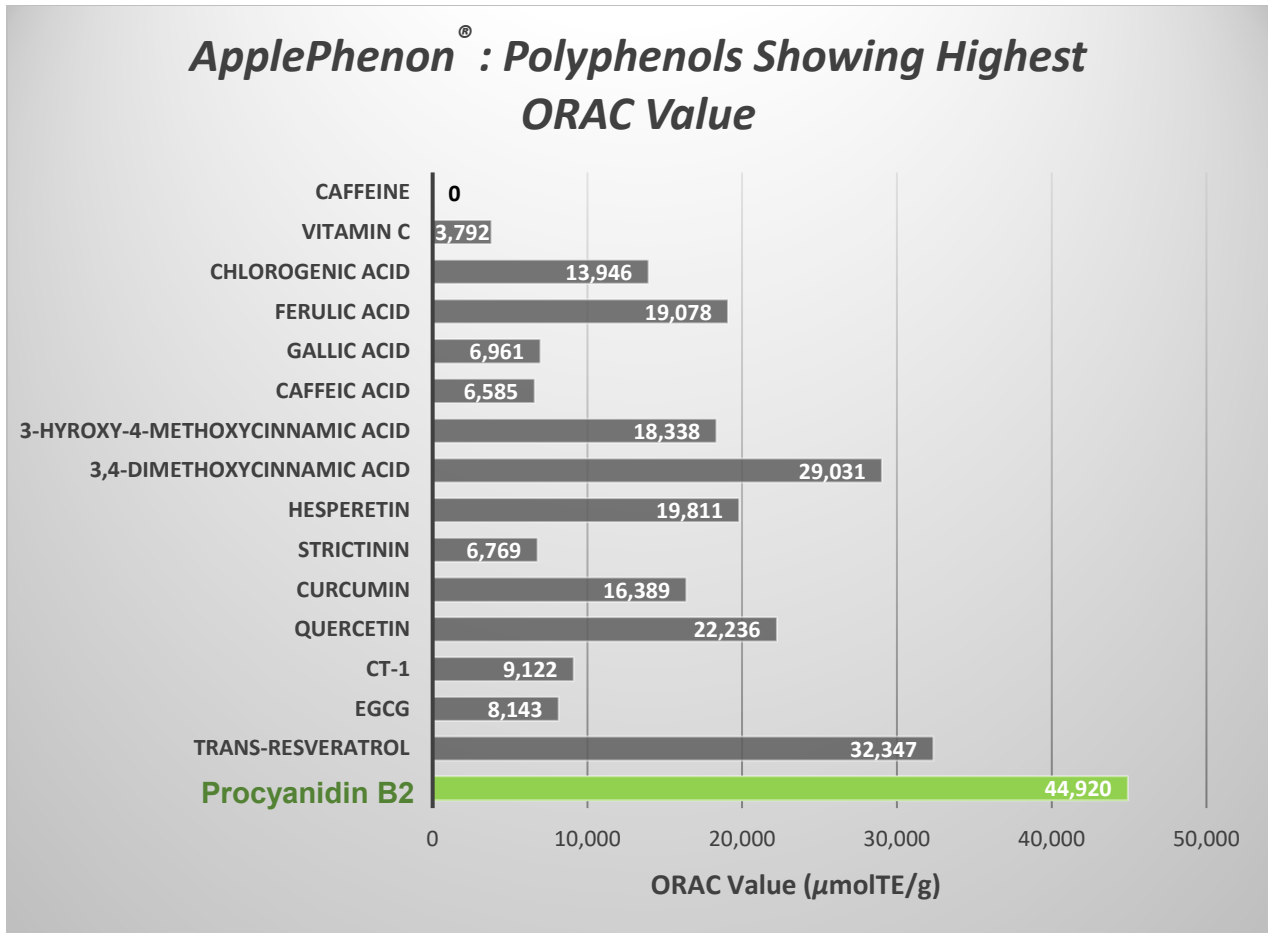
ApplePhenon® was pitted against many other well-known antioxidants in ORAC testing and came out far better than all of the others. In fact, it scored double the next best performer (pine bark extract from a very well-known brand) in this antioxidant analysis. And ApplePhenon®'s advantage was even more striking against other popular antioxidant supplements like grape seed and green tea (see chart below). This indicates how effective it can be for cardiovascular health and many other health concerns linked to reactive oxygen species.



Similarly, when you measure the primary active component in ApplePhenon®, Procyanidin B2, it too shows very strong antioxidant activity in ORAC testing. In the chart below, Procyanadin B2 is compared to many other antioxidants including trans-resveratrol, curcumin, quercetin and Vitamin C, and again, it was significantly more active as a free radical quencher. The only other product tested that was in the same ballpark was trans-resveratrol which showed about 75% of Procyanadin B2’s activity. The others generally had less than half the power, and in several cases, far less than half. In fact, Vitamin C had less than 1/10 Procyanadin B2’s free radical quenching activity.



Antioxidants are crucial weapons in the battle against aging



This powerful antioxidant activity, along with ApplePhenon®'s well-documented anti-inflammatory effects which have been widely documented in both clinical and pre-clinical research (Yoshioka, 2008; Enomoto, 2006; Kojima, 2000; Kanda, 1998;), are the foundation for all seven of ApplePhenon®'s clinically-validated health benefits.



ApplePhenon® is an All-Age and All-Ailment Supplement

The Leaner, The Healthier: Applephenon® for Weight Management

Besides “the better your blood vessels, the better your overall health,” there is one fat fact that all doctors agree on, and that is “obesity is the root cause and contributor to most life-threatening illnesses,” especially cardiovascular disease, cancer, brain illnesses, and immune system problems. Specifically, the bigger the belly, the worse a person’s health. “Visceral fat” is the medical name for abdominal fat. It is also known as “organ fat” as it concentrates around the vital organs close to the abdominal cavity. Excess fat in this area has been targeted by researchers as the most detrimental to maintaining good health. Stay lean and reduce your possibility of cardiovascular disease, diabetes, Alzheimer’s, and nearly every other ailment you don’t want to get. Belly fat, in particular, has been directly associated with an increase in the risk of cardiovascular disease and heart attacks (Razay, 2006).



Fortunately, a landmark human study found that when big-belly persons took 600 mg of ApplePhenon® daily, they experienced a significant reduction in belly fat after eight weeks, and even more after twelve weeks. This was a state-of-the-art human clinical trial—randomized, double-blind and placebo-controlled. In addition to testing ApplePhenon®’s effect on obesity, this study also tested for safety and found no deleterious effects, even with excessive intake of ApplePhenon®. The trial involved 94 volunteers who ranged from moderately underweight to moderately obese. ApplePhenon® was diluted in beverage form, and the treatment group consumed beverages with 600mg of ApplePhenon® for 12 weeks, while the placebo group consumed an equal amount of beverage without ApplePhenon®. Visceral fat was measured at baseline, at 8 weeks, and finally at 12 weeks. The results were extremely positive: After 8 weeks, subjects who started with normal visceral fat levels had no significant changes. However, subjects who started the study with high visceral fat levels had significant reductions at both 8 and 12 weeks. The statistical analysis revealed that after 8 weeks, the reduction in fat was significant at $P < 0.05$. But after 12 weeks, the reduction in fat was extremely significant at $P < 0.01$ (Nagasako-Akazome, 2010). The use of ApplePhenon® over time may have more pronounced effects for obesity, so I would recommend big-belly persons consume ApplePhenon® for at least 12 weeks to reduce abdominal fat levels. And while the study did not continue past the 12-week mark, it may prove wise to use ApplePhenon® on a continuous basis for people wishing to reduce abdominal fat levels and maintain this improved health state ongoing.

An earlier study corroborated the results above. This study tested ApplePhenon® against another polyphenol-containing product, hops, which has been found effective for metabolic syndrome in other research (Dostalek, 2017). Using a group of 71 moderately obese subjects over a 12-week span, both treatment groups showed positive results for decreasing total cholesterol and LDL-cholesterol, with ApplePhenon® performing better than hops. But only ApplePhenon® was

effective in decreasing the visceral fat area and lowering levels of adiponectin, while hops was not (Nagasaki-Akazome, 2007).

Glucose Management: Applephenon®’s Support for Diabetics

Metabolic syndrome is a cluster of conditions that increase the risk of very serious, life-threatening illnesses including heart disease and Type-II diabetes. Among the telltale symptoms are high cholesterol and triglyceride levels, excess belly fat, and high blood sugar (glucose) levels. As we’ve seen above, ApplePhenon® has been proven effective in reducing cholesterol and triglycerides and in decreasing belly fat in multiple studies. And a large-sample clinical trial has shown that ApplePhenon® can help with glucose management as well, indicating that it could be the perfect supplement for preventing metabolic syndrome.

Managing glucose levels is a day-to-day battle for the world’s burgeoning diabetic population. Based on an earlier study with positive results for ApplePhenon® in diabetic mice, the same researchers published a human clinical trial in 2017 in a group of 88 high-normal and borderline patients. These people had fasting plasma glucose levels of 100 – 125 mg/dL that put them just



ApplePhenon® may be a great supplement for diabetics

below the threshold for diabetes (the range considered an early predictor for Type-II diabetes). These people were what I call “Pre-Diabetic.” After 12 weeks of supplementing with 600mg per day of ApplePhenon®, a significant difference was found in the treatment group versus the placebo group in a key test of glucose tolerance. The researchers concluded, “In the present human clinical trial, ApplePhenon® ingestion for 12 weeks improved hyperglycemia in high-normal and borderline subjects” (Shoji, 2017).

Respiratory Support and Anti-Allergic Benefits of Applephenon®

A few different clinical trials have demonstrated that ApplePhenon® has anti-allergic properties. Two of these are in the area of respiratory health. One of these studies was done with 33 patients with persistent allergic rhinitis. Allergic rhinitis is a common malady suffered by millions, particularly during periods of high airborne allergens when it is commonly referred to as hay fever. It causes a variety of symptoms centered on the nasal system including sneezing, runny nose, congestion and sinus pressure. The aim of this study was to find a safe and natural alternative to anti-histamines and steroid treatments which are the current commonly-used

treatments for people suffering from persistent rhinitis. The problem with both of these drugs is that they have serious side effects. For anti-histamines, side effects include nausea and vomiting, blurred vision, confusion, dry mouth, and even trouble urinating. With steroid treatment, the potential side effects are much more serious; they include high blood pressure and increased blood sugar levels, glaucoma and cataract, mood swings and thinning bones. Additionally, patients sometimes experience weight gain and fluid retention as well as thinning skin. Surely, a safe and natural alternative to these side-effect laden drugs would be of great clinical interest. And fortunately, this study and others show that ApplePhenon® may be a safe and natural treatment for a variety of allergic conditions. The study report pointed out: “Polyphenols derived from apples have been reported to suppress histamine release from rat cells, reduce auricular allergy in mice, and alleviate skin inflammation in atopic patients. These effects suggest that apple polyphenols are effective for the treatment of various allergic disorders.”

ApplePhenon® is easily diluted in water, so the patients were given a drink containing ApplePhenon® during this trial. The patients, with an age range of 15 to 65, all had suffered persistent allergic rhinitis for a period of at least three years, and in each patient the rhinitis was classified as moderate to severe. Patients were separated into three groups—the control group took a placebo, a low-dose ApplePhenon® group took a drink with 50mg per day, and a high-dose group took a drink with 200mg of ApplePhenon® per day. Results were very positive:

- Both the low-dose and high-dose treatment groups experienced a significant reduction in sneezing attacks
- In addition to reduced sneezing attacks, the high-dose group also experienced a decrease in nasal discharge
- The percentage of people who showed improvement in the swelling of the nasal turbinate was higher in the treatment groups



No side effects and a significant reduction in the symptoms of hay fever and pollen allergies

The researchers summarized: “We conclude that apple polyphenols are effective in alleviating the symptoms of persistent allergic rhinitis” (Enomoto, 2006). Thus, they had proven their original hypothesis that ApplePhenon® may be a safe and natural alternative to commonly prescribed drugs for allergies that bear the burden of numerous serious side effects.

An earlier study on patients suffering from cedar pollinosis showed similar results. People living in areas with many cedar trees (such as parts of the United States, Mexico and Japan) often suffer from an allergic reaction to the pollen cedar trees release in spring. This is another form of allergic rhinitis similar in many ways to hay fever. Patients in the treatment group in this double-blind study took 500mg per day of ApplePhenon® for 12 weeks. During the early period of pollen dispersion as well as during the main period, sneezing scores decreased in patients taking ApplePhenon® (Kishi, 2005).

Skin Health: Applephenon® for Internal Skin Support

Two very different studies have indicated internal skin health benefits for ApplePhenon®. The first clinical trial is related to allergies, and was done on sufferers of atopic dermatitis (commonly referred to as eczema), an itchy, allergic skin disorder that is often chronic. As seen in the respiratory clinical trials on allergic conditions cited above, ApplePhenon® is effective in treating symptoms of allergies in people suffering from hay fever and pollen allergies. A similar result was found with this allergic skin condition. After 8 weeks, the patients taking ApplePhenon® once again showed very positive results:

- Reduced inflammation
- Decreased itching
- Improved skin cracking
- Improved peripheral blood eosinophil counts
- Reduced sleep disturbance

The study concluded: “The results suggest that ApplePhenon® has an anti-allergic effect and that its use improved the symptoms of atopic dermatitis” (Kojima, 2000).

A recent clinical trial found completely different skin health benefits for ApplePhenon®. This study was published in the leading journal *Nutrients* on the internal skin health and beauty-from-within benefits of ApplePhenon®. The registered study done in Japan was randomized, double-blind and placebo-controlled and examined the effect of ApplePhenon® on skin health in 59 healthy women over 12 weeks at two dosages of 300mg and 600mg per day. The results found four distinct statistically significant benefits at both dosage levels, indicating an internal sunscreen effect and antioxidant protection by ApplePhenon® in the skin of healthy women:

- Reduction in skin reddening (sunburn) after UV irradiation of the treatment groups versus the placebo group measured as the delta increase in redness
- Significantly lower delta increase in melanin formation after UV irradiation in the treatment groups versus the placebo group
- Less skin darkening due to UV irradiation in the treatment groups versus placebo measured as the delta increase in darkness
- In addition, the study analyzed the effect of ApplePhenon® on the generation of superoxide radicals. Results indicated that all of the oligomer fractions present in ApplePhenon® strongly inhibited the generation of superoxide radicals, demonstrating that ApplePhenon® has SOD-like antioxidant activity (Shoji, 2020)



***Support skin health from the inside
with ApplePhenon®***

Strength & Endurance (for athletes...and everyone else)

ApplePhenon® has been tested in humans and proven capable of preventing fatigue, improving endurance and even increasing strength. In a pioneering clinical trial, subjects were separated into three groups. One group took 1200mg per day of ApplePhenon®. Another group took 1000mg per day of ascorbic acid (a form of Vitamin C). Finally, the third group took a placebo. It's interesting to note that this study only lasted eight days, a very short period of time to see clear results from taking this type of natural substance for endurance improvement.

The test for physical fatigue used a bicycle ergometer. The subjects did a two hour long fixed workload trial at the beginning of the study and again after eight days at the end of the study. During the two-hour workload, the subjects performed a maximum velocity test for ten seconds after the first half hour and then again near the end of the two-hour period. The results showed that the subjects taking ApplePhenon® performed better during the ten second maximum velocity test than the subjects taking placebo or ascorbic acid. This points toward the use of ApplePhenon® for competitive athletes who want to be able to maintain endurance during long events such as marathons and get that last surge of stamina in the final minutes; but it also shows that ApplePhenon® may be the perfect supplement for anyone who gets tired while working or participating in sports (Ataka, 2007).

Two very exciting human clinical trials are currently awaiting publication that pertain directly to athletic performance. While I can't reveal all the details of these studies pending publication, I can give a brief summary of their exciting results:

- In a study done on college athletes, ApplePhenon® was compared to placebo and CoQ10 over two weeks. Subjects were tested to see how many seconds they could hold a weighted knee stretch as a measure of strength and endurance. Remarkably, after only two weeks, the athletes taking ApplePhenon® could hold the knee stretch four times longer than those taking placebo! Compared to the CoQ10 athletes, the ApplePhenon® athletes could hold the knee stretch over twice as long (pending publication).
- The second study was similar to the first in that the subjects took either ApplePhenon®, CoQ10 or placebo. But it was different in two key ways: Firstly, this study was not done on athletes; rather, it was done on random subjects aged 18 to 60. Secondly, the test was a measure of bicycle pedal speed. This study lasted for only eight days. As one might expect, results showed that the ApplePhenon® group had significantly faster pedal speed after supplementation than the placebo group or the CoQ10 group (pending publication).



ApplePhenon® helps increase both endurance and strength

Oral Care: How Applephenon® Supports Healthy Mouths

Oral care is sometimes overlooked by the supplement industry, and it shouldn't be. In particular, inflammatory conditions of the mouth are linked to other, more serious health conditions. If we have plaque buildup or high levels of oxidants and inflammatory markers in our mouths, constant swallowing of saliva brings these unwanted substances into our digestive system, from which it can journey on to other parts of our body and cause serious problems. Hence, oral rinsing with a proven anti-inflammatory and powerful antioxidant like ApplePhenon® can go a long way toward improving not only oral health, but also toward preventing many other maladies.






Two human clinical studies have shown a few key benefits for oral care from ApplePhenon® use. The first study was done on 20 young subjects aged 19 to 20 over three days. Instead of brushing their teeth or performing other oral cleansing, they used a mouthwash containing 0.05% ApplePhenon®. Plaque formation was examined at the end of the trial, and a statistically significant reduction in plaque was found in the treatment group versus placebo (Matsudaira, 1998). A second study awaiting publication was done to measure ApplePhenon®'s effect on methanethiol, the key component that causes bad breath. It was found that chewing gum with a very low dose of 0.024% ApplePhenon® for five minutes can inhibit the production of methanethiol, thereby decreasing bad breath (pending publication). These two diverse findings for oral care show excellent potential for ApplePhenon® in a novel area of supplement research.



A little ApplePhenon® goes a long way to support oral health

Dosage and Applications

Applications

				
DIETARY SUPPLEMENTS	CHEWING GUM	BEVERAGES	COSMETICS	MOUTH WASH, TOOTH PASTE

Recommended Dosage by Application

USE	DOSAGE (ADULTS)
Cardiovascular Health	600 mg/day
Lipid Glucose Management	600 mg/day
Weight Management	600 mg/day
Respiratory Support & Anti-Allergic	50 – 200 mg/day
Oral Care	5 mg/3-5 times/day
Skin Health Benefits	300 – 600 mg/day
Strength & Endurance Improvement	1200 mg/day

Emerging Research on ApplePhenon®

A Supplement to Extend Lifespan?

Outside of the impressive list of health benefits demonstrated in human trials, additional animal and in-vitro research has opened up new possibilities for the use of ApplePhenon® to improve health and even to extend life. The life extension potential of apple polyphenols is of particular interest as it has been validated in five separate studies across four different species. Besides being tested in a model organism for mammalian longevity used in life extension research (the species of roundworm called *Caenorhabditis elegans*), apple polyphenols have also been tested in fruit flies, yeast, and most notably in two rodent models. In all four organisms and across all five studies, apple polyphenols consistently increased the lifespan of each species (Sunagawa, 2014; Palermo, 2012; Peng, 2011; Sunagawa, 2011; Tomobe, 2007). Should this translate to a similar effect in humans, the implications would be momentous.



The polyphenols in ApplePhenon® make several animal species live longer. Will it have the same effect in humans?

Applephenon Supports Good Gut Health

While I don't want to spend much time on all the excellent pre-clinical research on ApplePhenon®, I do want to mention one study that was a truly top-level study. Generally, all of the published research on ApplePhenon®, both human and pre-clinical, was done by top-notch researchers and published in renowned journals. But this particular mouse study was really extraordinary and got published in one of the world's best scientific journals, *Scientific Reports by Nature*. This study, published in 2016, was a joint effort by the Japanese government and two leading Japanese Universities. It shows that over 20 weeks, mice fed a high-fat/high-sucrose diet supplemented with ApplePhenon®:



Nature: One of the world's leading scientific journals

- Had improved gut health due to ApplePhenon®'s support for the health of the microbiome
- Experienced less obesity and reduced weight gain

- Had decreased levels of inflammation
- Showed regulated expression of genes related to lipid metabolism
- Demonstrated decreased levels of metabolites associated with insulin resistance

This single study supports ApplePhenon®’s human clinical evidence for weight management, anti-inflammatory properties, cardiovascular support and glucose management. And it adds a new twist of potential support for the microbiome. The researchers concluded, “These data suggest that [ApplePhenon®’s] highly polymeric procyanidins influence gut microbiota and the intestinal metabolome to produce beneficial effects on metabolic homeostasis” (Masumoto, 2016).

In my writings I describe the microbiome as your personal gut-health pharmacy. And, the gut bugs are like micro-pharmacists in the lining of your gut. In return for free food and a warm place to live, these gut bugs make personal medicines for your health. The better you feed these gut-bug pharmacists, the better medicines they make for you. (And that’s exactly what ApplePhenon® appears to do for these health-giving gut bugs.)

Novel Treatment for Hair Loss

Finally, in a very interesting double-blind human clinical trial on 43 volunteers, ApplePhenon® was shown capable of accelerating hair growth. The authors pointed out that the procyanidins in ApplePhenon® had already shown hair-growing potential in vitro and hair-growing activity in rodent research, so they decided to test this functionality in humans. They had men with male pattern baldness apply a solution of 0.7% ApplePhenon® topically to their bald areas. After six months, they tested the group applying ApplePhenon® and they showed a statistically significant increase in the total number of hairs compared to the control group. (This result was extremely highly significant at $P < 0.001\%$.) They also noted that the ApplePhenon® group showed an improvement in hair density (Takahashi, 2005). This is a very interesting way that men can combat male pattern baldness—by applying a little ApplePhenon® to their heads each night before bed.



ApplePhenon® may even help people grow hair!

Conclusion

I've examined a lot of different ways in which ApplePhenon® can improve people's health; prevent diseases; improve strength and endurance; prevent allergies; support skin health; reduce obesity; even grow hair faster. This is an incredible substance, and that's why BGG patented it in the USA—so that our customers can market ApplePhenon® with peace of mind that they have a unique, clinically-validated nutraceutical backed up by three active patents. The medical research is strong in areas such as cardiovascular support, allergy relief, enhancing strength and endurance, and combatting obesity. And it is emerging in areas such as support for diabetics, for various aspects of skin health, oral care, and as a way for balding men to accelerate hair growth. Meanwhile, there are many potential health benefits successfully studied in animal research that may one day be validated in humans as well. And nothing is more exciting than the possibility that the polyphenols in ApplePhenon® have life extension potential as was witnessed in five different studies involving four different organisms.

I encourage formulators and product development staff at supplement brands and functional food & beverage companies to investigate this research further. For anyone interested, BGG has made available an extensive list of research abstracts featuring over 100 studies showing positive benefits associated with ApplePhenon®. Please contact us by e-mail at support@bggworld.com to get your free copy today.

Please note: this document is available for various countries all over the world and hence it may contain statements or product classification not applicable to your country. The claims made are in reference to ingredients only, hence they do not refer to finished products. Marketers of finished products containing the ingredient described herein are responsible for determining whether the claims made for such products are lawful and in compliance with the laws of the country in which they will market the products. Please note that the physiological activity of the ingredient described herein is based on scientific literature done on the ingredient only. Access to abstracts for published studies related to this document including author, publisher and publication can be requested to BGG.

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About the Author

Dr. Bill



Dr. Sears, or Dr. Bill as his “little patients” call him, focuses his current lectures and writings on the epidemic of weakened immune systems and antioxidant insufficiencies the world over. He received his medical training at Harvard Medical School’s Children’s Hospital in Boston and The Hospital for Sick Children in Toronto, the world’s largest children’s hospital, where he was associate ward chief of the newborn intensive care unit before serving as the chief of pediatrics at Toronto Western Hospital, a teaching hospital of the University of Toronto. He has served as a professor of pediatrics at the University of Toronto, University of South Carolina, University of Southern California School of Medicine, and University of California Irvine. As a father of 8 children, he coached Little League sports for 20 years, and together with his wife Martha has written more than 40 best-selling books and countless articles on nutrition, parenting, and healthy aging. He serves as a health consultant for magazines, TV, radio and other media, and his AskDrSears.com website is one of the most popular health and parenting sites. Dr. Sears has appeared on over 100 television programs including 20/20, Good Morning America, Oprah, Today, The View, and Dr. Phil, and was featured on the cover of TIME Magazine in May 2012. He is noted for his science-made-simple-and-fun approach to family health.

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