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The New Age of **ENERGY**



Natural ingredients boost
mental and physical energy



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Redefining Energy



“**E**nergy” means a lot of things. It’s the quick get-up-and go athletes need to sprint 100 meters. It’s the long, slow-burning fuel that powers athletes through an Ironman triathlon. It’s the anti-crash for the busy executive in her 3 p.m. meeting. It’s the wake-up-bright-eyed for the kid’s Saturday soccer match. It’s the brain focus to write an A-plus college mid-term essay. It’s even down to the cellular level that allows all body systems to function.

That means the energy market for natural products is not a broad, one-size-fits-all demographic. The nuance in ingredients that address certain types of energy and the messaging behind finished products force marketers to develop comprehensive and targeted strategies. But it also means the energy market has opened to many more products. Ingredients originally for “other demographics” are making their way into energy products. For instance, consumers are starting to recognize the importance of protein as a stable energy source.

But the term “energy” may bring negative connotation to some consumers due to the recent controversy with energy drinks. (Young men, however, are still embracing energy drinks of all kinds.) Consequently, natural products that supply energy may want to differentiate themselves from products with undeclared amounts of caffeine, and instead look to other ingredients such as coenzyme Q10 (CoQ10), polyphenols or choline as energy enhancers. Those products need to carry appropriate messaging so consumers don’t expect products to provide the quick-acting energy as caffeine.

On the other hand, many consumers recognize the benefits of caffeine and are convinced that its long history of use in coffee and tea has shown it’s safe for consumption. Those consumers are likely to look for botanicals and specialty supplements in a combination with caffeine for energy.

The point is opportunities in the energy market are bountiful, but a natural product brand needs targeted messaging within the category to really make a successful product that jumps higher than the competition.

This digital issue is designed to explain how some natural ingredients affect energy systems in the body ([page 4](#)), to explore innovations in brain energy ([page 18](#)) and to explain the market trends in this category ([page 23](#)).

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Accomplishing Ingredients

Natural compounds that promote brain and body energy

by Sandy Almdarez

The afternoon meeting, early morning workout, midterm exam or late-night dinner date are all more enjoyable—and successful—with an abundance of energy.

Humans get their energy (calories) from food in the form of protein, carbohydrates and fat. Enzymes and bile break down food components, which are then transported into the cytoplasm and mitochondria of cells, where they are further broken down into adenosine triphosphate (ATP).

ATP stores the energy that humans use to do their activities. It is in every cell and created by the mitochondria in a process called glycolysis. ATP has a triphosphate, or three phosphorous groups connected by oxygen molecules that each have negative charges. These negative charges repel each other, and when one of the phosphate groups is removed, it creates a conversion from ATP to adenosine diphosphate (ADP), which is crucial for supplying energy.

Energy on the cellular level translates into human lives with alertness, exercise tolerance and increased calorie expenditure. While food provides energy, zero-calorie natural ingredients can spur energy by influencing the cellular process.

For instance, a 2007 study from Saint Louis University found **caffeine**, which has no calories, increased the release of ATP by close to 70 percent in rabbits who consumed an equivalent of a human drinking one to two cups of **coffee**.¹

For humans, coffee has been the fuel of choice for centuries, and is still the most popular caffeine delivery device. Years of research on coffee and caffeine have proven they help boost energy. Combining exercise and caffeine supplementation was more effective for promoting energy use, and led to exercise being perceived as less difficult and more enjoyable than exercise alone in recreationally active participants.²

Another study found caffeine ingestion significantly increased energy expenditure in individuals regularly completing rigorous resistance training by 15 percent both before and after exercise compared to placebo.³

INSIDER's Take

- Caffeine from coffee and tea continues to be a solid source of energy for consumers looking for quick effects.
- Natural ingredients, such as the botanical bitter orange and the brain compound phosphatidylserine (PS), have been studied for their effects in combination with caffeine.
- Many botanicals and specialty ingredients have shown their energy effects without the help of caffeine.



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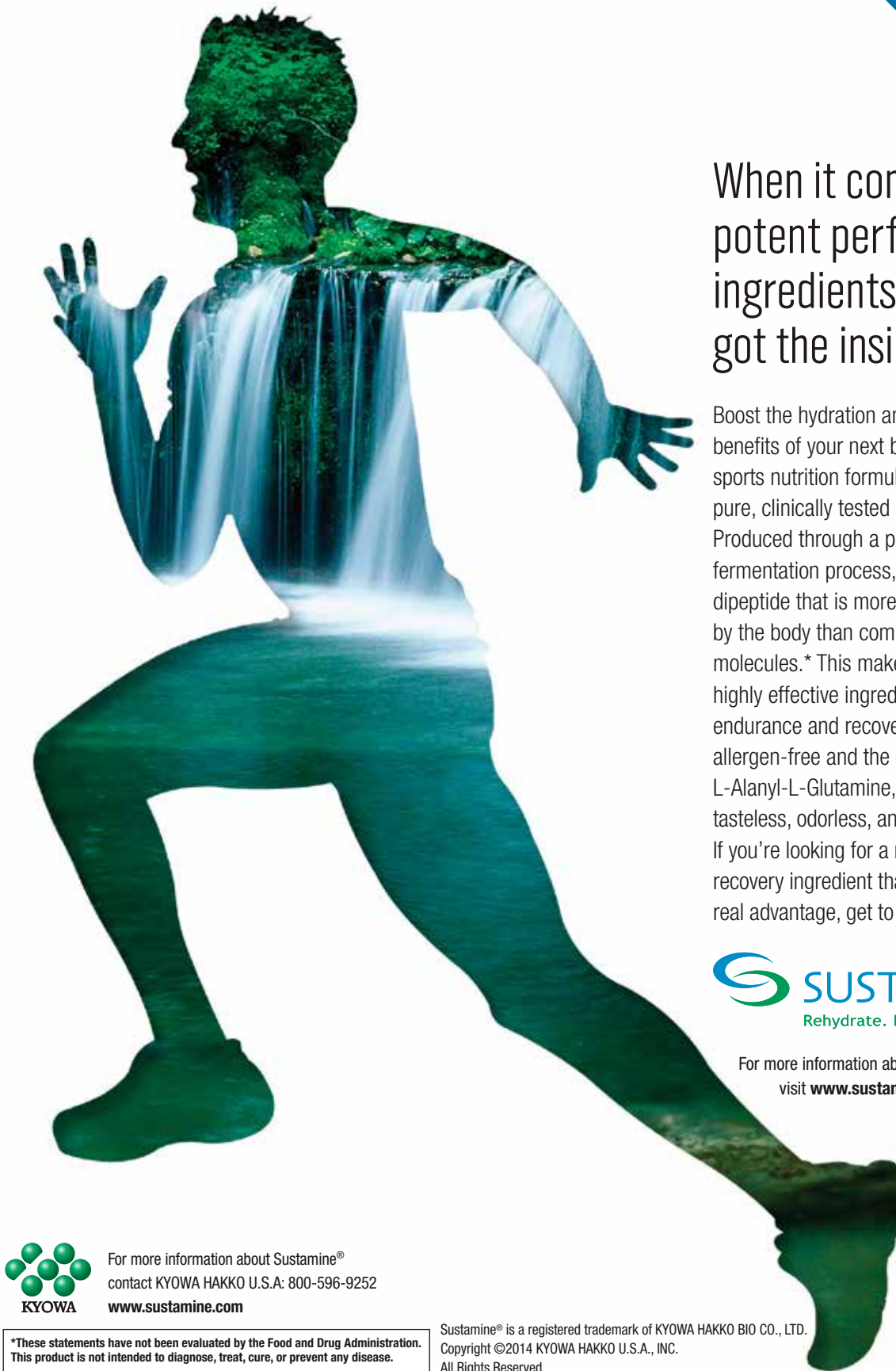
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Tea is another favorite way to get caffeine, and research has shown its benefits to energy. Tea is also filled with health-promoting catechins, a group of flavonoids that has been studied for their effects on energy. A meta-analysis from 2011 found tea catechin-caffeine mixtures and caffeine-only supplementation increased energy expenditure significantly over 24 hours; and the catechin-caffeine mixtures also increased fat oxidation.⁴

Tea consumption was associated with better brain energy, including global cognition, memory, executive function and information processing speed in community-living Chinese older adults.⁵ Both black/oolong tea and green tea consumption were associated with better cognitive performance.

But tea's energizing benefits go beyond its caffeine content. A 1999 study found green tea has thermogenic properties and promotes fat oxidation beyond what is expected from its caffeine content.⁶



Tea's energizing benefits go beyond its caffeine content.

Tea combined with other ingredients may offer synergistic energy benefits. A 500-mg formula containing extracts of green tea, and the botanicals **bitter orange** (as Advantra Z from Advantra Z Inc.) and **guarana**, with 6 mg of synephrine (bitter orange's active ingredient), 150 mg of caffeine and 150 mg of catechin polyphenols, increased ATP production from carbohydrate oxidation by 30 percent in overweight, adult males at rest.⁷ And a multi-ingredient supplement containing **raspberry ketones**, caffeine, **capsaicin**, **garlic**, **ginger** and Advantra Z (as Prograde Metabolism™ from Prograde Nutrition), in addition to an eight-week weight loss program, increased energy levels in obese but healthy subjects in a randomized, placebo-controlled, double blind study.⁸ The subjects also had a reduction in body weight, fat mass, waist girth and hip girth, and an increase in lean mass compared to placebo.

A supplement with Advantra Z (21 mg of synephrine) and 304 mg of caffeine (as Ripped Fuel Extreme Cut® from Twinlab®) taken one hour before cycling led to the perception that exercise was less strenuous in healthy adults aged 20 to 31 years in a double blind, placebo-controlled, crossover study.⁹

Combining caffeine with other natural ingredients, such as **ribose**, has also shown to be a winning energy proposition. Ribose is a pentose monosaccharide (simple sugar) that attaches to the purine base (adenine) of ATP. Ribose is used



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when ATP makes DNA. Combining D-ribose (as Bioenergy Ribose) with caffeine significantly reduced caffeine usage levels and provided sustained energy for better performance in a mice fatigue model, according to an unpublished November 2013 study conducted by researchers at Bioenergy Life Sciences. The D-ribose and caffeine combination was also safer than caffeine alone because D-ribose protected organs from stress caused by caffeine and high-intensity exercise.

Ribose alone can also boost energy in patients with chronic fatigue syndrome and fibromyalgia, which are debilitating syndromes associated with impaired energy metabolism. An open-label, unblinded study found 5 g of D-ribose (as Corvalen® from Douglas Labs) given three times a day for three weeks increased energy by 61.3 percent, increased well-being by 37 percent, improved sleep by 29.3 percent, improved mental clarity by 30 percent and decreased pain by 15.6 percent in patients with chronic fatigue syndrome and/or fibromyalgia.¹⁰ In a similar study, D-ribose administered at 5 g three times a day improved energy, sleep, mental clarity, pain intensity and well-being in patients with a diagnosis of chronic fatigue syndrome and/or fibromyalgia.¹¹

A combination of **L-carnitine** and caffeine promoted fat oxidation, resulting in higher endurance performance in athletes in a randomized, double-blind study from 2001.¹² L-carnitine is a compound biosynthesized from the amino acids lysine and methionine that transports long-chain fatty acids into the mitochondrial matrix for beta-oxidation, creating ATP.

A study from 2002 showed carnitine's ability to increase in long-chain fatty acid oxidation in vivo in normal subjects under normal conditions.¹³ This fatty acid oxidation leads to energy effects, according to research. Oral administration of L-carnitine (as Carnipure™ from Lonza) increased capacity for physical and cognitive activity by reducing fatigue and improving cognitive functions in centenarians with fatigue after physical activity.¹⁴ Additionally, it produced a reduction of total fat mass and increases in total muscular mass. In a similar placebo-controlled, randomized, double-blind, two-phase study, carnitine-treated patients showed significant reductions in physical and mental fatigue, as well as on fat mass and cholesterol.¹⁵

L-carnitine supplementation led to a significant increase in fat oxidation in slightly overweight subjects, whereas protein synthesis and breakdown rates remained unchanged, indicating the increased dietary fat oxidation was not accompanied by protein catabolism.¹⁶

**A combination of
L-carnitine and
caffeine promoted fat
oxidation, resulting
in higher endurance
performance in
athletes.**



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Caffeine and **phosphatidylserine** (PS), a phospholipid membrane component, has also shown energy benefits to the brain. Supplementation with 400 mg/d of PS and 100 mg/d caffeine for two weeks increased the number of correct answers and significantly decreased time to answer in a cognitive function and reaction time test following acute exercise stress.¹⁷ PS also significantly reduced the perception of fatigue before and after exercise.

Another study found 10 days of supplementation with 750 mg/d of soybean-derived PS improved exercise capacity in active males by increasing time to exhaustion.¹⁸

While caffeine—alone or in combination with other ingredients—has been consumed by humans for centuries, recent questions about the safety of energy drinks has tarnished caffeine’s reputation, leading some consumers to obtain their energy from other sources. Other consumers may be extra sensitive to the effects of caffeine, so they look elsewhere for their energy. The good news is there is plenty of standalone ingredients that can boost energy, besides for the ones already mentioned in this article.



LEARN MORE about the controversy of caffeine use in energy drinks in the three-part series written by attorneys at Steptoe & Johnson LLP:

- [“Energy Drinks at Risk?”](#)
- [“Regulation of Energy Drinks in Europe—Toward a Stricter Regime?”](#)
- [“Energy Drinks in the Courtroom”](#)

For instance, various **polyphenols**—antioxidants found in plants—boost energy without caffeine. In a study from 2011, rats that consumed aqueous mixtures of 25 mg/d of polyphenols (cathin, chlorogenic acid, ellagic acid and quercetin) showed a significant increase in swimming time, and polyphenols increased the concentration of ATP.¹⁹

A 150-mg dose of elevATP™, a proprietary combination of a water extract of ancient peat (fossilized plants) and **apple extract** from FutureCeuticals, caused an increase in blood levels of ATP by 64 percent without increasing oxidative stress in healthy adults.²⁰ A different study found a 150-mg dose of elevATP increased whole blood levels of ATP by 40 percent 60 minutes after consumption, and by 28 percent 120 minutes after consumption versus pre-supplementation levels in fasted and rested adult human subjects.²¹

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Nexira conducted an unpublished double blind, crossover, placebo-controlled study on 50 athletes, aged 25 to 45 years, which demonstrated 500 mg/d of a proprietary combination of two botanical apple and **grape extracts** rich in polyphenols (as ViNitrox™) improved physical capabilities by increasing physical training time by 10 percent and delaying fatigue by 13 percent. Nexira said the apple and grape polyphenols used in ViNitrox promote nitric oxide (NO) production and increase blood flow while decreasing oxidative stress.

Capsiatra Dihydrocapsiate is similar to capsaicin—the potent ingredient in hot peppers—but is not as pungent and does not elevate heart rate or blood pressure. It's known for its ability to help manage weight due to increased resting energy expenditure, but newer studies showed it increases endurance by conserving muscle glycogen stores. Glycogen functions as a long-term energy storage and is converted into glucose by muscle cells, which can be used throughout the body.



Chia was a viable option for enhancing performance for endurance events lasting longer than 90 minutes.

Mice that ingested capsiate (10 mg/kg) were able to swim longer before exhaustion than control mice.²² After 30 minutes of swimming, the residual glycogen in the muscle tissue was higher, the serum free fatty acid concentration tended to be higher, and the serum lactic acid concentration was significantly lower in the capsiate-administered mice.

A 300-mg dose of the brain-energy botanical **Bacopa monniera** (as Synapsa™ from PLT Health Solutions) significantly improved speed of visual information processing, learning rate and memory consolidation and state anxiety compared to placebo, with maximal effects evident after 12 weeks.²³

Synapsa (offering 320 mg of *B. monnieri*) also improved cognitive demand performance in a double-blind, placebo-controlled study in normal healthy participants.²⁴

Chia, which is rich in omega-3 essential fatty acids (EFAs), was a viable option for enhancing performance for endurance events lasting longer than 90 minutes, and it allowed athletes to decrease their sugar intake, according to a study from 2011.²⁵ An omega-3 chia drink (50 percent of calories from Greens Plus Omega 3 Chia seeds [from Orange Peel Enterprises] and 50 percent from

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Gatorade) was equal to a 100-percent Gatorade drink in trained male subjects who performed a one-hour run and a 10K time trial on a track.

Beyond botanicals, other natural ingredients help energize through various mechanisms. During athletic competitions or recreational pursuits, the body's hydration level can become compromised, resulting in lower energy. **Glycerol**, a sugar alcohol that is absorbed and distributed throughout the intracellular space, has been used to induce hyperhydration to reduce the deleterious effects of dehydration. A review from 2007 noted glycerol has the capacity to enhance fluid retention, which may give a performance advantage by offsetting dehydration.²⁶

Pre-exercise glycerol consumption (1.2 gm/kg glycerol in 26 ml/kg solution) lowered heart rate, lowered internal body temperature, and prolonged endurance time during cycling in trained individuals compared to pre-exercise placebo hydration (26 ml/kg of aspartame flavored water) in a separate study.²⁷ Ingestion of a large volume of fluid (39.2 or 51.1 ml/kg/d) with glycerol (2.9 to 3.1 g/kg/d) resulted in smaller urine volumes compared to consuming the same amount of fluid without glycerol, demonstrating it keeps human subjects hyperhydrated for extended periods of time.²⁸

Citicoline, a brain chemical that occurs naturally in the body, helps energize the brain. Healthy adult women, aged 40 to 60, who took 250 mg or 500 mg of citicoline, made fewer omission and commission errors in a test of attentional function, compared to those in a placebo group.²⁹

And a study from 2008 found oral administration of 2,000 mg/d of Cognizin citicoline (from Kyowa Hakko) for six weeks improved frontal lobe bioenergetics and may help mitigate cognitive declines associated with aging by increasing energy reserves and utilization.³⁰ Supplementation also increased the amount of essential phospholipid membrane components needed to synthesize and maintain cell membranes.

Adolescent males experienced increased motor speed and attention after supplementation of 250 mg or 500 mg of Cognizin citicoline, according to an unpublished randomized, double blind, placebo-controlled study presented at the American Society of Clinical Psychopharmacology conference in 2014. The adolescent males who were administered citicoline during a 28-day period showed multiple improved cognitive domains, which included measures of attention and motor speed.

The body uses **coenzyme Q10** (CoQ10) to create ATP, which fuels cellular metabolic activity. In the cell, CoQ10's main role is in the mitochondria, where it

Glycerol, a sugar alcohol, has been used to reduce the deleterious effects of dehydration.





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helps convert food into energy. Oral administration of 100 or 300 mg/d of CoQ10 improved subjective fatigue sensation and physical performance during fatigue-inducing workload trials.³¹ Supplementation with 100 mg of a fast-melt CoQ10 supplement for two weeks resulted in increased time to exhaustion and lower oxidative stress in both aerobically trained and untrained male and female subjects.³²

And 300 mg of ubiquinol—the reduced form of CoQ10—taken for six weeks significantly enhanced physical performance measured as maximum power output in well-trained athletes.³³

Natural ingredients that help the body create energy are in demand as consumers look to fuel their lives in healthy ways. Natural product suppliers have a variety of energy ingredients to choose from with research backing. ■

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Mental Energy: Beyond Caffeine

by *Blake Ebersole*

Anyone who has seen the movie “**Limitless**” has seen the human desire for boundless mental energy in action. Unfortunately, the body resists extremes, and seeks to establish limits and balance to all its systems, especially those regarding energy metabolism. From a strict nutritional view, energy for the body results from consuming food calories in protein, fats and carbohydrates. Through a series of biochemical processes which include conversion to glucose, food is converted into the basic energy currency of the cell, adenosine triphosphate (ATP) in order for life, physical activity or “energy” to exist. But ATP is short-lived: the body’s source turns over 5,000 times a day. This means that it must be replenished by a rapid and efficient system.

Looking at the energy metabolism pathways for clues, we see many key catalysts and cofactors come from our diet, and they are called—drum roll please—vitamins and minerals. **B-vitamins** help the body convert food into fuel like glucose, in order to facilitate ATP creation. Vitamin B3 (nicotinic acid, aka niacin) and newer isoforms such as nicotinamide riboside are part of an evolving repertoire of dietary compounds that may play multiple roles to convert food to energy in various tissues. These compounds also help the system run more efficiently, as well as helping to signal to the brain to create a perception of physical and mental energy.

Another key component of the metabolic process includes the reduced form of **nicotinamide adenine dinucleotide** (NADH), also known as Coenzyme 1. Although it is endogenously made in the body, researchers have considered NADH and its oxidation product NAD⁺ possible dietary components worthy of clinical evaluation. Interestingly, NADH is commonly used to stimulate the production of dopamine in the brain. Although clinical trials and bioavailability data is sparse on its consumption, 64,000 studies for NADH are listed in a search of Pubmed.

Any form of food calories provides energy. But “fast” energy sources in our favorite cookies and potato chips, and their rapid blood sugar spikes and accompanying burst of mental energy, are quickly becoming the cigarette smoking of the 21st century. In current research, energy sources that are “slow release,” like lean **protein**, are reported to improve overall mental energy levels when compared to high-carb diets—not to mention the benefit for cardiovascular health and blood sugar management.

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Time to power up!

- Ignite muscle performance
- Break through the fatigue barrier
- Amp up Nitric Oxide level
- Apple & grape polyphenols

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ViNitrox™ is a unique and proprietary synergistic combination of apple and grape polyphenols. It has been specifically developed to answer the demands of athletes in search of natural dietary supplements.

ViNitrox™ offers a number of exceptional sports nutrition properties including enhanced and lasting performance. Nexira's latest clinical study on 50 athletes, 25-45 years old, demonstrated that under intensive effort 500 mg/day of ViNitrox™ improves physical capabilities.

One caveat with high-protein for mental energy is that it does not offer the instant gratification that caffeine and B-vitamins do. But normalized, sustained improvements in overall mental energy and alertness do occur over the course of weeks with changes in dietary habits, and some newer studies on high-protein diets are finding marked improvements in days, not weeks. One recent clinical study found a single consumption of either glucose or protein increased alertness, although glucose impaired memory while protein improved it.¹ Another study found two days of a high-protein diet can improve feelings of satisfaction and contentment,² while the consumption of a lactalbumin protein in the evening was found to increase feelings of alertness the next morning.³

People who changed from a regular diet to a **Mediterranean diet** for 10 days also reported improvements in alertness.⁴

For those of us who don't change diets much, but consume coffee or tea for energy, **caffeine** is king. New evidence shows caffeine may be neuroprotective in separate, but complementary ways to its acute effects on our mood. And now, caffeinated energy drinks have been in recent clinical trials, and some of the findings on alertness are no surprise. Recent publicity on studies performed years ago found that subjects have more energy after consuming caffeine before a short nap than with either caffeine or a nap alone, again suggesting the possibility that the timing of dosing with sleep patterns is important.^{5,6} However, caffeine also presents a downside, especially those prone to learning and attention deficits, anxiety, insomnia and dependence.^{7,8}



Healthy older subjects taking a brain-optimized form of curcumin reported less fatigue and more alertness than those on placebo.

Meanwhile, newer and emerging ingredients may also be helpful in offering sustained levels of mental energy without mood swings and jitters. In a new study presented by Australian researchers at the British Psychological Society Annual Meeting on Psychobiology, healthy older subjects taking a brain-optimized form of **curcumin** reported less fatigue and more alertness than those on placebo.⁹ In this study, improved levels of calmness were also reported, which suggests the mechanism of action is not due to a central nervous system stimulant or caffeine-like effect. In another 2014 study performed in Germany, mice fed high-dose curcumin had a significant increase of brain ATP, which may shed light on its underlying mechanism.¹⁰

Adaptogens, a category of herbs, help the body balance the effects of stress on the molecular, cellular and psychological levels. The common denominator for many of these are their pharmacological actions on neurotransmitters such as acetylcholine, epinephrine and serotonin. Holy basil, *Bacopa monnieri*, ashwagandha and ginseng all have a fair amount of data supporting their potential effects to normalize feelings of mental energy and related endpoints for mood. Going back thousands of years, a yin-yang dual type of effect may be observed, which can be interpreted as sedative in clinical trials. But **Eleutherococcus** (Siberian ginseng) was recently found to be equally effective for improving mood levels, including feelings of alertness, compared to stress management training.¹¹ Herbs that act as acetylcholinesterase (AChE) inhibitors, such as **sage leaf**, have also been found to improve mental energy in clinical trials.^{12,13} Huperzine-A, another AChE inhibitor, may have possible benefits for improved mental energy, although more work is being done to evaluate its safety and effects in different populations.

From the experience of someone who has consumed a triple espresso, but did not get three times the energy as expected—the key is to keep a balance. ■



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The New Age of Energy

by Kate Kunkel

In today's culture, people are in desperate need of energy. Between growing demands at work, school and home life, time does not permit low energy levels when completing day-to-day tasks. However, the modern consumer also understands health better, which could shift the energy market to a more natural realm.

For approximately 59 percent of core U.S. consumers, health and wellness means having the energy for an active lifestyle, according to Hartman Group's Culture of Wellness 2013 report. Similarly, 54 percent reported it means being able to deal with stress, and 52 percent said health and wellness means being alert and bright-minded. Whether those results come from morning coffee, an afternoon tea or popping a vitamin B tablet, time-crunched Americans are looking for energy options to get them through the day or help them perform above and beyond their usual standards.

According to data from SPINS, the vitamins, supplements, herbs and homeopathic combined channel (natural and conventional multi-outlet) marketed for energy support fell just 1.7 percent from May 2013 to May 2014 (USD \$728.2 million to \$715.7 million). In this category, the top primary ingredients by volume included taurine, vitamin B12, tyrosine, vitamin B complex and women's multivitamins.

SPINS data also revealed sales increases in caffeine, green teas and supplements, vitamin B1 (thiamin), and the combination of vitamin B1-B2-B6-B15 within the combined channel. Sales for coenzyme Q10 (CoQ10) and docosahexaenoic acid (DHA) products also grew slightly during the same period; however, ingredient sales for ribose, vitamin B complex, vitamin B5 (pantothenic acid) and B6 (pyridoxine) fell within the channel.

Shifting Demographics, Emerging Trends

While serious athletes once dominated the energy market's demographic makeup, the shift is toward more recreational athletes hoping to improve their overall fitness, performance levels and energy levels, according to Sebastien Bornet, director of global marketing at Horphag Research. In particular, these consumers want natural, safe and evidence-based energy ingredients in their formulations.

INSIDER's Take

- Sales increased in the categories of caffeine, green tea and B-vitamins marketed for energy, according to SPINS data.
- Shifting demographics and consumer demands led to new and emerging trends, including protein for sustained energy.
- Negative media coverage and product saturation have caused a slowdown in energy drink sales.



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On the other hand, Chris Fields, vice president of scientific affairs, Applied Food Sciences Inc., said there is no “typical” energy consumer. Ever since Red Bull first penetrated mass markets, the brand paved the way for a strong demand in alternative energy solutions. Once the conversation got started, consumers decided they wanted energy sources outside of the typical cup of coffee or can of soda.

“Every demographic group above the age of 12 is now seeking energy solutions in different ways with different product profiles and by incorporating different ingredient solutions,” Fields added. “Energy just makes you feel better—that is universal among every demographic group.”

Shifting demographics and consumer demands have also led to new and emerging trends within the energy sector. Some of these trends include a focus on protein, energy bars and hybridization, among others.

“There’s a switch in the supplement category to reposition ingredients as sources of energy—one in particular is protein,” said Chris Schmidt, consumer health analyst, Euromonitor.

Companies are promoting protein ingredients, especially through ready-to-drink (RTD) beverages, as “sustained” energy sources, as opposed to the immediate pop from a caffeine tablet or shot, Schmidt explained. Protein ingredients are often marketed as macronutrients that are better than fat or carbohydrates because they can keep users going for much longer.

In the category of vitamins, supplements, herbs and homeopathics marketed for energy support (total U.S. natural channel excluding Whole Foods Market), protein was listed among the top primary ingredients sold (by volume) from May 2013 to May 2014, according to data from SPINS. Multi-source protein without soy grew 48.9 percent from almost \$6 million to more than \$8.5 million during this period. Protein ingredients listed as “other” also experienced sales growth of almost 30 percent (from about \$6 million to \$8 million). However, sales of multi-source protein with soy fell almost 15 percent (approximately \$7.5 million to \$6.5 million).

Another upcoming trend within the energy sector involves energy bar consumption, predicted Rikka Cornelia, product manager, BI Nutraceuticals. Several brands have already been established within the marketplace, and their “on-the-go” factor combined with the continued growth of the nutrition bar segment will help this sector flourish. Cornelia added that energy bars offer an easy format and incorporates important fiber and protein into the diet, which address the trend of sustained energy.

“Energy just makes you feel better—that is universal among every demographic group.”

— Chris Fields, vice president of scientific affairs, Applied Food Sciences Inc



A trend of hybridization has also spread across several food and beverage segments, which include those used for energy.

“Consumers are looking for a combination of ‘good for you’ ingredients in products to kill two birds with one stone,” Cornelia said. “For instance, energy products aim to not only physically invigorate you, but also to make you mentally more alert. I see manufacturers incorporating more cognitive health ingredients, such as ginseng and green tea, into their energy products.”

The Energy Drink Controversy

One hot-button issue within the energy category involves the realm of energy drinks and shots. Growing consumer concerns over these products’ caffeine content, coupled with recent lawsuits on advertising claims from the leading brand 5-Hour Energy, have caused difficulties for energy drink companies wanting to attract new consumers. According to Euromonitor’s latest vitamins and dietary supplements (VDS) report, 5-Hour Energy experienced just 3-percent growth within the tonics and nutritive drinks category in 2013. The report also stated the category’s consumer base is peaking in terms of consumption, so private label and smaller “copycat” brands are attempting to cut into the category with cheaper products promising similar results.



Three states recently sued the makers of 5-Hour Energy over advertising claims stating the product is safe for teenagers and does not cause the “crash” common to other energy products. **To read more about the lawsuit** and its lessons for the industry, check out the full article “States Sue 5-Hour Energy Over Advertising: Lessons for Industry “ by Ivan Wasserman published on **INSIDER**.

Euromonitor’s report showed energy drink’s off-trade value sales rose by only 6 percent in the United States during 2013, hitting \$9 billion, which follows a 16-percent growth rate in 2012. Off-trade volume sales of energy drinks grew 8 percent in 2013 after 18-percent growth in 2012. The slowdown in energy drink sales growth likely stems from product saturation and other beverage categories entering the space, as well as recent media coverage of possible links between energy drinks and deaths, the report revealed.


“There are a lot of prying eyes into whether or not energy drinks should be regulated in terms of age restrictions and content,” said Jonas Feliciano, beverages analyst, Euromonitor. “[Energy drinks’] high amounts of caffeine still cause wariness among consumers over whether what they are putting into their

bodies is healthy or not. We may begin to see lower levels of caffeine and more of a focus on what consumers view as natural energy components.”

Feliciano added consumer education will be key in the energy drink market. Companies going the natural route—using tea as a caffeine source in their products, for example—must market the energy drinks in a way that explains why its ingredients might be better than others. Because consumers see tea and coffee beans as substances that exist in nature, they perceive them as more natural, and therefore, more appealing.

Marketing to educate consumers does not mean advertising hyperbolic claims, however.

“There’s plenty of good science on how caffeine can increase energy and alertness,” Schmidt said. “Stick to basic functional claims...it’s not worth the headache of promoting a formulation and then being sued for making a claim that’s exaggerated.”



“We may begin to see lower levels of caffeine and more of a focus on what consumers view as natural energy components.”

—Jonas Feliciano, beverages analyst, Euromonitor

Euromonitor’s VDS report stated young men remain the key consumers of energy drinks, who frequently reach for the products while at school, work or in bars. To broaden the appeal of their brands, U.S. energy drink manufacturers began introducing energy shots (1- to 2-oz. concentrated servings of a main energy brand) intended to attract the more conservative consumers, such as an office worker. However, the brand image stuck with consumers more than the new format, so energy drink and energy shot manufacturers are now transitioning their advertising to focus on a need for energy during sports activities (using World Cup ads and sponsoring auto racing, for example).

“It all stems from how energy drinks came about,” Jonas said. “There has always been a push toward college-aged men, and that created [energy drinks]’ core consumer base. Now that those consumers are older and the category has more money, companies have found they can go beyond that, but young men will still make up the core because that’s where it all started.”

A Look Ahead: Consumer Demands

No matter the demographic, consumers crave energy they can feel. Matt Titlow, CEO of Compound Solutions Inc., exclusive distributor of TeaCrine, further explained consumers want noticeable effects when using energy products.

“Though taste is always most important, the sensory effect is critical as well,” Titlow said, adding consumers expect ingredients to make them tingle, feel more alert, focused, motivated and/or more energetic. “The more sophisticated consumer is expecting ingredients to drive other pathways and deliver additional functional benefits beyond increased wakefulness, alertness, and focus that caffeine delivers. This may include being able to ‘auto-regulate,’ which may minimize sleep disturbance.”

As new trends emerge and demographics expand, it’s clear the energy market will continue to boom. No matter what the task, whether it’s running a marathon or getting through a day in the office, consumers both want and need energy ingredients to keep them feeling alert, focused and ready to go. ■



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