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Awareness, Attention and Attitude: Brain Health Benefits of Ashwagandha

Research has shown that 300 mg of ashwagandha twice daily for eight weeks helped study subjects reduce stress, improve memory and reduce food cravings.



Takeaways for Your Business



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KSM-66 Ashwagandha has been clinically proven to :

- ▶ Help reduce stress, anxiety, cortisol levels and stress-related food cravings*
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- ▶ Help promote endurance, strength, muscle size and muscle recovery rate*
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- KSM-66 is the highest concentration root extract on the market today (>5% withanolides by HPLC)
- KSM-66 has the highest number of quality certifications



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Here Come the Adaptogens, All Dressed in White

It's the summer wedding season, and thankfully, my wedding planning is done (I've been married five years now), but many around me are in the throes of it.

One of my best friends, Jen, is helping her sister create a wedding dream day in July, which has been a stressful process. About a month ago, I just had to send this article to Jen for her to share with her sister, "[The Five New Superfoods You Need to Incorporate Into Your Wedding Beauty Regimen](#)" from Brides.com. While I can't guarantee the entire article is backed by scientific research (I didn't see a reference list), I agree that brides—like many others in today's society—can benefit from probiotics, tocotrienols and—you guessed it—adaptogens.

Adaptogens were the second "superfood" on the list—only after the popular ingredient of probiotics. The author, Amanda Chantal Bacon, founder of [Moon Juice](#), a supplement company based in California, wrote, "If you haven't heard of these yet, you're about to hear about them a lot more—they're the latest trend in the world of wellness." She called adaptogens a lifesaver for brides anxious about wedding planning.

This example from Brides.com shows the reach adaptogens are getting, and how new markets are opening for these botanicals rooted in ancient Indian Ayurvedic medicine.

This Digital Magazine is here to help brands offer adaptogens to those new markets, be they brides, athletes or any others who would benefit from these healing herbs. This Magazine looks at the latest research in adaptogens, as well as exploring some of the most popular adaptogens taking over market shelves.

Also, if you find yourself planning or attending a wedding this summer, grab some ashwagandha or schisandra; I hear it helps reduce the stress.



Sandy Almendarez

Sandy Almendarez

Editor in Chief

(480) 281-6745

sandy.almendarez@informa.com



@sandyalmendarez



Capitalizing on Today's Adaptogen Boom

INSIDER's Take

- Adaptogen product launches in 2016 were up 100 percent compared to 2015, as shown at Natural Products Expo West, with supplements, beverages and snacks leading the category.
- Research shows adaptogenic herbs such as *Rhodiola rosea*, ashwagandha, curcumin and *Tongkat ali* help consumers reduce stress, increase sports performance, boost brain health and more.
- The far-ranging benefits to the whole body can make marketing adaptogens difficult for brands, but it's best to stick to substantiated claims that resonate with target audiences.

Today's hottest-selling botanicals fall into the category of adaptogens.

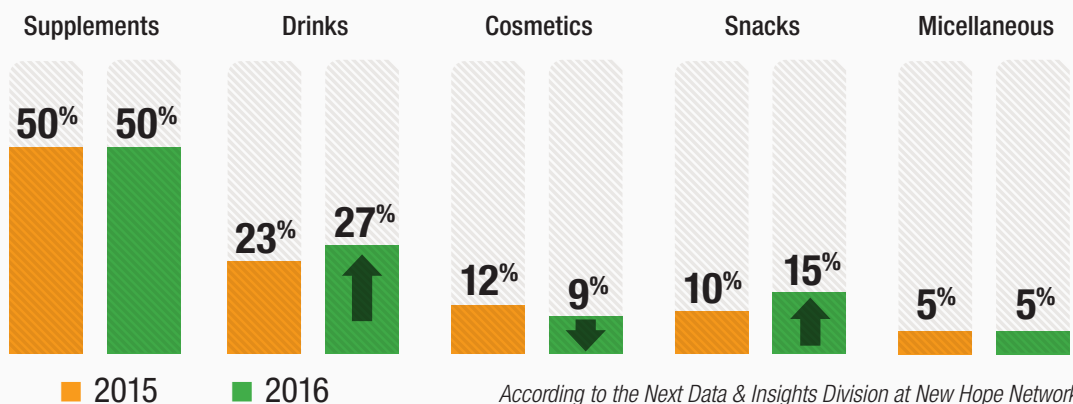
As the name suggests, adaptogens help a body adapt. But adapt to what?

"These plants help us to adapt to all forms of physical or mental stress," said Chris Kilham, a.k.a. the Medicine Hunter, who travels the far reaches of the planet in search of novel and indigenous botanicals. "Of the 50,000 or so medicinal plants used globally, there are maybe 10 or 12 adaptogens."

These adaptogens include the likes of ashwagandha, *Rhodiola rosea*, schisandra, eleuthero, ginseng, maca, holy basil, Cordyceps, amla, shilajit and a few others, including one that's been trending steadily—curcumin.

And business is booming. According to the Next Data & Insights Division at New Hope Network, whose "Next Trends" tool quantifies product offerings, of the 56 adaptogenic products on display at Natural Products Expo West 2015, half were supplements, 23 percent were drinks, 12 percent were cosmetics, 10 percent were snacks and 5 percent were miscellaneous products. At Expo West 2016, 112 products featured adaptogens—a full 100 percent increase. Supplements in 2016 remained at 50 percent, drinks were up slightly to 27 percent of products, snacks rose to 15 percent, cosmetics dropped to 3 percent, and, again, 5 percent were miscellaneous.

Adaptogenic products on display at Natural Products Expo West



Adaptogens have been defined as: "Herbal preparations that increased attention and endurance in fatigue, and reduced stress-induced impairments and disorders related to the neuroendocrine and immune systems."¹

Medical herbalist Mary Bove, N.D., chief formulator at Gaia Herbs, described three appealing traits of adaptogens. “They are nontoxic in the body,” she said. “They move the body to homeostasis, to equilibrium. And they have nonspecific action.”

Adaptogenic herbs are a staple of the 4,000-year-old medical tradition of Ayurveda in India. Ayurveda—literally, “the science of life”—is based on the health and healing concept of balance and harmony within the body.

In the modern Western medical tradition, being sick is considered a disease state (dis-ease, the state of not being at ease with the world). Associated concepts include stress—mental and physical—the fatigue/energy axis, and areas of cognitive health around mood and foggy thinking. As lifestyle concerns (as opposed to abject disease states), drugs aren’t top treatment options, creating opportunity for supplement companies to innovate while drawing on the popularity of natural botanicals.

Two completely different consumer targets show interest in ingredients like adaptogens. “There is current growth in this segment,” said Kristen Marshall, marketing coordinator at Verdure Sciences. “We see two market segment trends for two different types of consumers, typically based on age. There are those associating stimulant-type effects—wanting an increase in energy—versus those who associate health with calm, well-being and relaxation.”

The modern use of Ayurvedic-oriented adaptogenic herbs for energy began in the 1970s when the Soviet Union began experimenting with adaptogenic botanicals as a performance aid for soldiers, cosmonauts and Olympic athletes.

One herb stood out: *Rhodiola rosea*.

Rhodiola

Much of the Soviet-era research remains secret, but there’s no denying the high count of Soviet Olympic medals in those years. Plus, other researchers have validated Rhodiola’s effects. One randomized, double-blind, placebo-controlled study among 60 individuals showing stress-related fatigue gave subjects 576 mg/d of the SHR-5 Rhodiola extract for 30 days.² The supplementing group had significantly better scores in a burnout scale, attention, inattention response time and significantly reduced levels of the stress hormone cortisol. The researchers concluded the Rhodiola extract “exerts an anti-fatigue effect that increases mental performance, particularly the ability to concentrate, and decreases cortisol response to awakening stress in burnout patients with fatigue syndrome.”

In the experiment, the dosage level was higher than that usually found in single-dose supplements. The key phytochemical at work with rhodiola is rosavins. The amount used in the study was approximately 7 mg rosavin for an extract standardized for 1 percent rosavins, which translates to 300 mg for 2 percent rosavins, and 200 mg for 3.6 percent rosavins. As such, one of the things to look for when designing a quality formulation is the dosage level of not just the Rhodiola extract, but also the rosavin concentration and quantity.



Another double-blind, placebo-controlled, randomized study used a 200 mg *Rhodiola* extract containing 3 percent rosavins for four weeks. The supplementing group experienced improved endurance exercise capacity as measured by time to exhaustion, pulmonary ventilation and peak VO_2max —a measure of maximum oxygen consumption that assays cardiorespiratory fitness.³

“*Rhodiola rosea*, folks,” Kilham said. “Write this down on a chalkboard 100 times, and tell *everybody*. *Rhodiola rosea* is the most profound medicine in our healing pharmacy. It enhances the mind, reduces stress, improves memory, banishes depression, eradicates anxiety, promotes a great night’s sleep and makes you feel like a billion bucks. Everybody can benefit from a daily dose of approximately 400 mg of *Rhodiola rosea* extract. Everybody.”

Ashwagandha

Ashwagandha (*Withania somnifera*) remains the principal ingredient in the adaptogen category. Traditionally, the roots of ashwagandha have been used throughout India as a rejuvenative tonic. The botanical has been used for emaciation, enhancing reproductive function in men and women, and inflammation, according to the American Herbal Pharmacopoeia (AHP) monograph.



Today, herbalists extract the withanolide phytochemical compound for its beneficial effects.

“If you look at the books on ashwagandha, it does 30 things,” said Anand Bodapati, Ph.D., science director for KSM-66 Ashwagandha from Ixoreal Biomed. “We focus on four areas—two for the mind, two for the body.”

The company has conducted research on stress relief and brain health, as well as sports performance and sexual health.

“The running theme,” Bodapati said, “is focusing on things that may affect your productivity in life.”

For example, in a study of 64 people with a history of chronic stress, 300 mg twice daily of full-spectrum KSM-66 Ashwagandha for 60 days led to a significant drop in cortisol levels, which helped participants deal with stress and report a better quality of life.⁴

In research on cognitive function published May 2017 in the *Journal of Dietary Supplements*, a double-blind, placebo-controlled study of KSM-66 in 50 subjects found 300 mg twice daily over eight weeks led to significantly improved immediate memory and general memory function.⁵ There was also a substantial improvement in attention, information processing speed and executive function.

“Ashwagandha is prescribed by traditional practitioners as a memory booster in children and adults,” said Kartikeya Baldwa, director of Ixoreal Biomed, which has now published 13 studies with another eight in progress, including a multi-country study on this topic. “This paper is an important contribution to the research literature because it presents a rigorous clinical trial validating this traditional application.”

Another benefit of ashwagandha is in the performance arena. One study examined the herb’s potential to improve cardiorespiratory endurance in healthy athletic adults.⁶

Conducted on an elite field hockey team, 300 mg twice daily for 12 weeks led to significantly higher VO_2max . The team members who consumed the herb also reported higher scores on a quality of life index.

This burgeoning research is helping ashwagandha get the market recognition it deserves—and enhanced stamina on the playing field is not the only potential application. “Things like stress can affect a whole lot of other things, including performance in the bedroom,” said P.K. Dave, president of Nature’s Formulary, an Ayurvedic supplement company. “It’s not the only way we present ashwagandha. But it gives people the understanding that it’s good for a set of things.”

This burgeoning research is helping ashwagandha get the market recognition it deserves.



“Ashwagandha shows great use for enhancing energy, endurance and stamina, which is typical of the class of adaptogens,” Kilham said. “It enhances overall sexual health for men and women. It helps people not only with athletic performance, but also to maintain muscle mass in aging, which is quite a surprise. It’s beneficial for the immune system. If ashwagandha suffers from anything, it’s a strange name.”

A typical structure/function claim that can be used for ashwagandha supplements might read: “Ashwagandha possesses general tonic and adaptogenic activity, and can help to enhance the ability of an organism to adapt to various stressors.”

Other marketing strategies include positioning around key words such as “stress.” Examples include: “increases resistance to stress,” “maintains a healthy stress response,” “adapt and balance,” “stress and energy” or “calming and stabilizing.”

Curcumin

In recent years, curcumin (*Curcuma longa*) has been among the top-selling nutritional ingredients in the U.S. market. Derived from the golden-yellow turmeric plant, curcumin is most renowned as an anti-inflammatory agent. This is an important health benefit

because most chronic degenerative diseases have a root in systemic, low-grade inflammation. Despite its popularity, many people are unaware of curcumin’s adaptogenic properties.

Ingredient supplier Verdure Sciences has a branded curcumin featuring elevated bioavailability. Longvida® has been tied to anti-aging and general well-being, at a comparatively low dose of 80 mg/d.⁷



Additionally, it has shown significant improvements in inflammatory biomarkers in an exercise-induced muscle damage model, which highlights applications for joint health and sports nutrition.⁸ Significant improvements in sustained attention, working memory and mood also support cognitive health applications.⁹ Further, healthy blood vessels, vascular health, endothelial support, cardiovascular support and sports nutrition can all be associated with the 2017 publication of a study where Longvida supplementation increased nitric oxide (NO) bioavailability and reduced oxidative stress.¹⁰

“The challenge with these adaptive ingredients,” Marshall said, “is in relaying multipurpose tangible health benefits to the manufacturer and in turn, the consumer.”

Tongkat ali

One of the lesser-known adaptogens is Tongkat ali (*Eurycoma longifolia*). Also known as Malaysian ginseng, it was historically used for everything from dysentery and complications during childbirth to an antibacterial and aphrodisiac.

A meta-analysis from 2017 concluded Tongkat ali “may have a remarkable potential in renewing male sexual vitality and enhancing libido and overall sexual performance.”¹¹

A patented form of Tongkat ali, branded as LJ100, is produced by ingredient supplier HP Ingredients. It is standardized to more than 22 percent eurypeptides, 40 percent glycosaponins and eurycomanone. All 13 human clinical trials have used the same water-extracted and standardized eurycoma root.

It has been shown to positively influence the catabolic/anabolic ratio by reducing cortisol levels, while maintaining normal high testosterone levels. While not a testosterone booster like anabolic steroids, instead it functions as an adaptogen in that it restores normal testosterone levels by increasing the release rate of “free” testosterone from sex hormone-binding globulin (SHBG).

“Primarily,” said Annie Eng, CEO of HP Ingredients, “LJ100 is marketed for its condition-specific results of improved mood and sexual enhancement, as well as improved body composition and sports performance.”



Claims

The science on some of the notable adaptogens is useful in providing a foundation for taking these herbs to market successfully. But marketers can get hung up by FDA and FTC for improper claims. And others have difficulty choosing the right messaging. How can one compound operate at opposite sides of the physiological spectrum?

“If you do a survey of how adaptogenic products are sold,” noted Risa Schulman, Ph.D., president of Tap-Root, which helps companies align research with messaging, “you’ll see claims that are unsubstantiated or step over the line to drug claims.”

Schulman takes issue with some of the metrics used in measuring the efficacy of adaptogens, precisely because the benefits are so difficult to quantify.

“The whole milieu of adaptogenic claims such as ‘improves vitality’ or ‘helps cope with daily stress’ are tricky because there’s no real way to show these in a study. What are you measuring?” she said. “So, while these ingredients may indeed work, it’s hard to

show that in a scientifically rigorous way. You have to fall back on ‘traditional use’ type of language. Rather than using a structure/function claim, you’re telling a story, ‘used for thousands of years,’ and then employing more general terms about the wellness benefits. It’s often difficult to say anything more specific. Some claims are easier to show, such as sleep or stress reductions, others are harder, like vitality or immune boosting. In any case, you have to have the data, and it’s only there some of the time.”

Bodapati said he designs clinical trials for KSM-66 that replicate traditional uses and that have also been conducted on generic ashwagandha material.

“Then we aim to have two studies on everything,” he said. “I’ve been careful to do clinicals where there are independent, non-vendor clinical trials—because if our clients are challenged, we want them to be able to say that they are using KSM-66 Ashwagandha, and there is published data on this specific ingredient, as well as on the generic extract. That makes it more compelling.”

Sorting through clinical trials to convey an appropriate message is no easy feat, but the good news is an increasing amount of research is validating the opportunities of adaptogens. That will allow new generations to benefit from what some cultures have known for thousands of years; adaptogens are exceptional solutions for today’s modern lifestyle concerns.



7 Amazing Adaptogens



Asian ginseng **(*Panax ginseng*):**

Endurance, immunomodulatory effects, general tonic.
Dose: 1 to 2 g/d yielding 80 to 240 mg of ginsenosides.



Cordyceps **(*Cordyceps sinensis*):**

Endurance, anti-inflammatory, antioxidant, antitumor, antiapoptosis, immunomodulatory.
Dose: 1 to 3 g/d.



Eleuthero **(*Eleutherococcus senticosus*):**

Immunology, fatigue, improves selective memory.
Dose: 300 to 600 mg/d dry extract with more than 1 percent eleutheroside E.



Holy basil (*Ocimum sanctum*):

Adrenal adaptogen reduces stress, enhances mood, enhances mental activity, ups dopamine and serotonin production.
Dose: 1 to 2 g/d.



Reishi (*Ganoderma lucidum*):

Therapeutic actions are around immune-enhancing, cardiovascular-regulating, hypoglycemic and hepatoprotectant.
Dose: Starts at about 3 g/d.



Schisandra **(*Schisandra chinensis*):**

Hepatoprotectant, cardiovascular effects, anti-inflammation, adaptogen.
Dose: 1.5 g/d. Adaptogen at 350 mg and up.



Shilajit (*Asphaltum bitumen*):

Testosterone booster, aphrodisiac, cholesterol modulator, antioxidant.
Dose: 200 to 500 mg/d.

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Brain health benefits of ashwagandha

INSIDER's Take

- After eight weeks, adults treated with 300 mg of ashwagandha twice daily demonstrated significant improvements in both immediate and general memory.
- Another study found taking ashwagandha at 300 mg twice daily for eight weeks caused a noticeable decrease in perceived stress among healthy subjects.
- In a separate study, the same dose (300 mg twice daily) and time frame (eight weeks) of ashwagandha supplementation reduced the desire or cravings for food.

Ashwagandha (*Withania somnifera*) is a member of the solanaceae (nightshade) family of flowering plants and a staple in the traditional Ayurvedic system of medicine. It is commonly called Indian ginseng or winter cherry, but “ashwagandha” literally means “smell of horse,” since the herb’s fresh roots smell like horse, and ancient lore holds that one who takes the herb extracts may develop the vitality and strength of a horse.¹

It has multiple rejuvenative effects on the human body, and thus is also referred to as a “royal herb.” The botanical is multipurpose in nature and acts on different areas of the body, such as the immune, neurological, endocrinal, energy-production and reproductive systems.²

It has long been used in Ayurveda to enhance memory and improve cognition. Kartikeya Baldwa, director of Ixoreal Biomed, the marketer of KSM-66, said, “Ashwagandha is classified in Ayurveda as a ‘medha rasayana,’ an agent that improves memory and intellectual capacity, and is prescribed by traditional practitioners as a memory booster in children and adults.”

Along with memory, Western-type medical research has shown ashwagandha’s benefits to cognitive function, anxiety, stress management and stress-related weight management; all health conditions that stem from brain function.

Memory and Cognitive Function

After eight weeks, adults treated with 300 mg of ashwagandha (as KSM-66 from Ixoreal Biomed) twice daily demonstrated significant improvements in both immediate and general memory, as evidenced by Wechsler Memory Scale III subtest scores for logical memory, verbal paired associates, faces and family pictures compared with the placebo group.³ The treatment group also demonstrated significantly greater improvement in executive function, sustained attention and information-processing speed as indicated by scores on the Eriksen Flanker task, Wisconsin Card Sort test, Trail-Making test part A, and the Mackworth Clock test. The double-blind, randomized, placebo-controlled trial



had a sample size of 50 subjects. Scientists hypothesize that the acetyl-choline-esterase inhibitory property of ashwagandha is responsible for its beneficial effects on memory and cognitive function.

Stress

Stress is accompanied by increase in serum cortisol levels. Ashwagandha, being an adaptogen, is known to promote homeostasis and reduce serum cortisol level.

Research conducted at the department of pharmacology, University of Texas Health Science Center, indicated that extracts of ashwagandha (5 mcg) produce gamma amino-butyric acid (GABA)-like activity.⁴ GABA decreases neuron activity and inhibits nerve cells from over firing, which produces a calming effect.

A study found KSM-66 Ashwagandha at 300 mg twice daily for eight weeks caused a noticeable decrease in perceived stress among healthy subjects by 44 percent from the baseline, which was statistically significant compared to the placebo group.⁵ Serum cortisol levels decreased by a statistically significant 27.9 percent, and General Health Questionnaire-28 (GHQ-28) scores were reduced by 72 percent by the end of the study. The GHQ-28 domain scores for “somatic,” “anxiety and insomnia,” “social dysfunction” and “severe depression” reduced significantly by 76.1 percent, 69.7 percent, 68.1 percent and 79.3 percent respectively from the baseline. And Depression Anxiety Stress Scale (DASS) scores decreased by 71.6 percent, with scores for depression, anxiety and stress domains reduced by 77 percent, 75.6 percent and 64.2 percent, respectively.

Ashwagandha, being an adaptogen, is known to promote homeostasis and reduce serum cortisol level.



In a rat model of chronic stress syndrome, ashwagandha and *Panax ginseng* extracts decreased the frequency and severity of stress-induced ulcers, reversed stress-induced inhibition of male sexual behavior, and inhibited the effects of chronic stress on retention of learned tasks.⁶ For a period of 21 days, the animals received a mild electric shock to their feet. The resulting stress on the animals produced hyperglycemia, glucose intolerance, increase in plasma corticosterone levels, gastric ulcerations, male sexual dysfunction, cognitive deficits, immunosuppression and mental depression. Both botanicals reversed stress-induced immunosuppression, but the researchers noted the ashwagandha extract had an advantage over *Panax ginseng* in that it did not appear to result in “ginseng-abuse syndrome,” a condition characterized by high blood pressure, water retention, muscle tension and insomnia.



Research also revealed the herb produces an antidepressant and anti-anxiety effect in rodents under a cold-water swimming stress test comparable to the antidepressant drug imipramine and the anti-anxiety drug lorazepam (Ativan).⁷

Weight Management

Chronic stress is frequently accompanied by increase in serum cortisol and food cravings, and a decrease in dietary control and mental well-being, which are all associated with weight gain.


Taking KSM-66 (300 mg twice daily) for eight weeks produced a 32.74 percent reduction in perceived stress scores from the baseline compared to placebo group.⁸ KSM-66 ashwagandha reduced the desire or cravings for food in the study subjects as demonstrated by Food Cravings Questionnaire (FCQ) scores, which suggests the botanical's potential for weight management.⁸ The FCQ scores for planning, positive and negative reinforcement, lack of control, emotion and environment domains were reduced significantly in the ashwagandha-supplemented subjects. A statistically significant decrease of 22.2 percent was observed in serum cortisol levels with ashwagandha supplementation compared to a placebo group. Ashwagandha supplementation resulted in a 3 percent and 2.9 percent reduction in bodyweight and BMI (body mass index), respectively. Supplementation with ashwagandha resulted in a significant increase in Oxford Happiness Questionnaire (OHQ) scores and a significant reduction in Three Factor Eating Questionnaire (TFEQ) scores for "uncontrolled" and "emotional eating behavior" compared to placebo group.

Dry leaf powder of ashwagandha (1 mg/g of body weight) could be a key regulator in maintaining the synaptic plasticity (the ability of synapses to strengthen or weaken over time) in obesity induced by a high-fat diet, and it can serve as a nootropic candidate against obesity-induced cognitive impairments, according to a 2017 study in young adult female rats.⁹ Rats fed a high-fat diet that also consumed ashwagandha for 12 weeks showed significant improvement in their working memory and locomotor coordination during behavioral studies compared to rats that ate the high-fat diet without the

ashwagandha. At the molecular level, ashwagandha treatment was observed to restore the levels of brain-derived neurotrophic factor (BDNF) and its receptor tropomyosin receptor kinase B (TRKB), as well as the expression of other synaptic regulators, which are implicated in synaptic plasticity.

Parkinson's Disease

Parkinson's disease is a neurodegenerative disease characterized by the selective loss of dopamine neurons. Anti-Parkinsonian effects of ashwagandha have been reported due to potent antioxidant, antiperoxidative and free-radical-quenching properties in various diseased conditions. In one study, rats were pretreated with the ashwagandha extract orally for three weeks. On day 21, 6-Hydroxydopamine (6-OHDA)—a rat model for Parkinson's disease—was infused into the subjects' brains. Three weeks after 6-OHDA injections, rats were tested for neurobehavioral activity and were sacrificed five weeks after lesioning. Ashwagandha reversed measurements of Parkinson's disease significantly in a dose-dependent manner.

While much of the noted research was conducted in rodents, emerging science will no doubt be exploring these effects further in humans to better demonstrate the potential benefits ashwagandha may bring to the minds and waistlines of consumers looking for better brain health and well-being from a versatile healing adaptogen. 

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Takeaways for Your Business

Ashwagandha's status as a "royal herb" comes from its multipurpose function

in the body, from the immune and neurological systems, to the endocrinal and reproductive systems. It is the principal ingredient in the adaptogen category, and business is booming for these botanicals. At Expo West 2016, 112 products featured adaptogens, which increased from the previous year, according to the Next Data & Insights Division at New Hope Network.

Medical herbalist Mary Bove, N.D., chief formulator at supplement company Gaia Herbs, described three appealing traits of adaptogens. "They are nontoxic in the body," she said. "They move the body to homeostasis, to equilibrium."

Adaptogenic herbs are a staple of the 4,000-year-old medical tradition of Ayurveda in India. Ayurveda—literally, the science of life—is based on the health and healing concept of balance and harmony within the body. Other adaptogens include *Rhodiola rosea*, schisandra, eleuthero, ginseng, maca, holy basil, cordyceps, amla, shilajit and curcumin.

Ashwagandha's positive effects span beyond cognitive health and memory to stress and weight management. For instance, stress is accompanied by an increase in serum cortisol levels, which can lead to food cravings and a decrease in dietary control and mental well-being—all of which are associated with weight gain. As an adaptogen, ashwagandha is known to promote homeostasis and reduce serum cortisol level.

There are two different types of consumers to target with ingredients like adaptogens. "There are those associating stimulant-type effects—wanting an increase in energy—versus those who associate health with calm, well-being and relaxation," said Kristen Marshall, marketing coordinator at ingredient supplier Verdure Sciences.

But marketers can get hung up by FDA for improper claims, and others have difficulty choosing the right messaging with adaptogens. How can one compound operate at opposite sides of the physiological spectrum?

Sorting through clinical trials to convey an appropriate message is no easy feat, but the good news is an increasing amount of research is validating the opportunities of adaptogens. That will allow new generations to benefit from what some cultures have known for thousands of years; adaptogens are exceptional solutions for today's modern lifestyle concerns.





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3300 N. Central Ave. Ste 300, Phoenix, AZ 85012
Tel. 480-990-1101 • Fax 480-990-0819
Website: naturalproductsinsider.com

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