Sometimes you just know in your gut what’s right. That’s how we feel about probiotics. Every day new research indicates that gut health influences our overall health. Ashland has teamed up with a leading global producer of probiotics, Probiotical Healthcare Srl., to bring you premium products and cutting-edge knowledge for nutraceutical applications. Contact us to learn more.

ashland.com/boost
UClear® D-Mannose
Healthy Urinary Tract

- Dietary Supplement
- Form: Powder / Tablet
- Spec: 99% by HPLC
- CAS #: 3458-28-4

>> D-Mannose Professional Manufacturer

US Headquarters: 1949 S. Lynx Pl., Ontario, CA 91761
East Coast Office: 1099 Wall Street West, Suite 136, Lyndhurst, NJ 07071
Tel: 714-990-9830  Fax: 714-784-2409
Email: sales@kebiotech.com  Website: www.kebiotech.com  www.kebnutra.com
Offering Over 2,000 Products
Powdered Herbs, Extracts, Custom Blends & More!

Email at: info@stryka.com
Find us on the web at: www.stryka.com

UPCOMING EVENTS

Mandalay Bay Convention Center
Las Vegas, NV
October 17-18, 2019
Booth # 4059
Traceable, Sustainable, All Natural, Turmeric

We foster long-term relationships with independent farmers in India's countryside to bring the highest quality Turmeric to the United States while supporting small farming villages in India.

VIDYA HERBS™
COMMITTED TO NATURE

info@vidyaherbssusa.com  
www.vidyaherbssusa.com

331 Newman Springs Rd.  
Red Bank, NJ 07701

1412 East Valencia Dr.  
Fullerton, CA 92831

USDA ORGANIC

www.usda.gov

www.vidyaherbssusa.com

www.vidyaherbssusa.com

www.vidyaherbssusa.com
FEATURES

22 Hemp
Beyond CBD

26 MCTs
Medium-chain triglycerides are in high demand. Here’s why.

30 Eye Health
The latest in eye-health ingredient science

34 Grains
Redefining and expanding the grains market

39 22nd Annual Supplier Profiles
UP FRONT

10 From the Editor

12 News
State attorneys general urge FDA on CBD

COLUMNS

16 Viewpoint
CEO requests stronger supplement regulations

18 Technology
The promise of blockchain

36 Ingredient Spotlight
The lesser-known health benefits of astaxanthin

170 Last Bite
Bars

RESOURCES

166 Advertiser Index

168 Classified

NutritionalOutlook.com

Nutra-Q, the online supplier directory that does more

Looking for a nutraceuticals supplier directory you can count on? Nutra-Q is a qualified directory, vetted thoroughly and often, by Nutritional Outlook.

Are you a supplier to the nutraceuticals industry? Register your company on Nutra-Q now!

www.nutra-q.nutritionaloutlook.com

TOP ONLINE STORIES

Protix opens world’s largest insect protein manufacturing facility
ow.ly/tak950uVItO

Hemp CBD extract supports sleep, reduces appetite, and improves quality of life in study
ow.ly/mSqN50uQUhS

MANAGE YOUR SUBSCRIPTION

For fast and easy subscription service, visit NutritionalOutlook.com

- Renew your subscription
- Change your address
- Sign up for a new subscription
- Cancel your subscription

Digital delivery now available!
For all other customer-service inquiries, e-mail fulfill@hcl.com
1,500,000  Sq.ft. of Manufacturing Facilities

16  Extraction Lines

30  Tons of Raw Materials Produced Daily

100  Tons Milled, Granulated or Blended Daily

40,000  Sq.ft. of Laboratory and R&D Facilities

1,200  Employees Worldwide

2,500,000  Kgs of Raw Materials Warehoused in NJ and CA

Strength In Numbers

Botanical Extracts & Powders
Fruit & Vegetable Powders
Spices & Natural Sweeteners
Premix Blends & Organics
Plant Proteins

Visit Us at SupplySide West
Booth 2159

JIAHERB
essentials of nature
1.888.JIAHERB
www.jiaherbinc.com

Premier Manufacturer of Natural Ingredients
FDA’s refusal to consider certain synthetic ingredients as dietary ingredients remains one of the big struggles the dietary supplement industry faces today.

In 2016, FDA wrote in its revised new dietary ingredient (NDI) draft guidance that a synthetic copy of a botanical or herb does not, in the agency’s eyes, qualify as a dietary ingredient. This opinion relates specifically to synthetic botanical ingredients: FDA recognizes synthetic vitamins, minerals, and amino acids as legal dietary ingredients under the Federal Food, Drug, and Cosmetic Act.

FDA’s stance on synthetic botanicals is as problematic and unresolved today as it was for the industry back in 2016 in the NDI draft guidance. The topic was top of mind this July when industry associations submitted public comments to FDA in response to FDA’s invitation to the public to submit ideas about how the agency should improve the way it regulates dietary supplements. The topic of synthetic botanicals was addressed by the Council for Responsible Nutrition (CRN; Washington, DC), which wrote that if a resulting synthetic ingredient is equivalent to a naturally occurring botanical or herb, “there are no scientifically justifiable grounds for treating synthetic copies of botanical constituents differently…”

Then there are those, such as omega-3 drug firm Amarin Pharma, who argue that certain synthetic ingredients should not be considered dietary ingredients. Amarin’s FDA-approved prescription drug, Vascepa, contains a purified, highly concentrated source of omega-3 fatty acid eicosapentaenoic acid (EPA) in ethyl ester form. In its submitted comments to FDA, Amarin declared, “Oils with a concentration of EPA and DHA that is greater than approximately 30% must be chemically synthesized in a laboratory.” Any high-concentration EPA ethyl ester ingredients being sold as dietary supplements are synthetically produced, Amarin wrote. The company argued that these ingredients do not meet the legal definition of a dietary ingredient and that they “are unlawful synthetic copies or slightly altered versions of branded and generic drugs, and they have evaded the ‘new drug’ approval process.” It went as far as to say that FDA should “exclude synthetic substances related to natural products from the definition of ‘dietary ingredient,’ unless those substances have been commonly/customarily, and lawfully used in conventional food…”

Amarin argued that FDA should remove these “unapproved new drugs” from the market because they “distract patients from seeking medical attention, and if appropriate, obtaining treatment with proven drug therapies…” Another concern, it said, is that these synthetic supplement products may not carry the same side-effect warnings and precautions for use that FDA requires on drugs, and they may be sold “without the safety and effectiveness data required for FDA drug approval,” the company wrote.

If an omega-3 dietary supplement were shown to be equivalent in nature to a drug product that has been demonstrated to be safe, would that supplement inherently present a risk to human health? Perhaps what is clearer is the concern that high-concentration omega-3 supplements stand to undercut omega-3 drugs. Amarin was frank about this concern, noting in its comments that these supplement ingredients “undermine incentives for legitimate drug manufacturers to invest in drug development” and that “purported dietary supplement companies that unlawfully bypass the ‘new drug’ approval process are...able [to] avoid the costs and risks associated with drug development…”

Amarin continues to fight the supplement industry on this matter. In May 2019, the United States Court of Appeals for the Federal Circuit upheld a 2017 decision of the International Trade Commission not to investigate Amarin’s complaint against companies like omega-3 oils supplier DSM Nutritional Products and omega-3 supplement brands such as Pharmavite LLC and Nordic Naturals Inc. Amarin argued that these companies’ products contain synthetic ingredients and are not legitimate supplements. Late this July, Amarin sent a petition asking the U.S. Supreme Court to review the Federal Circuit’s decision.

Amarin’s fight to keep synthetic omega-3 supplements off the market shows no sign of waning. And in the botanicals market, it’s still uncertain today where FDA’s decision on synthetic botanicals will ultimately land.

The debate about synthetic ingredients is alive and pressing. The supplement industry will continue keeping a watchful eye on Amarin’s actions, even as industry leaders continue to communicate with FDA on whether supplement regulations and definitions regarding synthetic ingredients should be changed.
The Most Trusted Source For

INGREDIENT SALT

We believe that ingredients should be pure, safe and natural. That's why we take pride in providing the highest quality salt for supplements, healthy foods and beverage manufacturing. When it comes to meeting consumer demand for clean labels and better taste, there's simply no substitute for SaltWorks®.

Call our salt experts today!
Ask about our custom sample kits.
800-353-7258 | info@seasalt.com | seasalt.com
A coalition of 37 state attorneys general is urging FDA to cooperate with the states in protecting consumers from false advertising related to cannabis-derived products such as CBD and to protect consumers from the potential hazards in certain populations of consuming such products. The attorneys general addressed such concerns in public comment submitted to FDA on July 16 following FDA’s May 31 open hearing on the issue of CBD regulation.

“We write to express our hope that the FDA continues to explore manufacturing, testing, and marketing best practices so that consumers are not at risk of misleading advertising or harm to their health from dangerous additives or undisclosed risks of use,” wrote the coalition. “A crucial element of FDA regulation and oversight should be an ongoing assessment of the potential risks or benefits of these products, particularly for specific populations such as pregnant women, adolescents and children, and the elderly. How these products interact with other dietary or pharmaceutical products should be included in this assessment. It is also important that companies not mislead consumers. Scientific and medical data from the FDA would assist in meaningful enforcement of advertising laws and regulations by the states.”

An appropriations package recently passed by the U.S. House of Representatives provides funding for FDA to conduct a health hazard evaluation of CBD in order to set a safe use level for consumers. The process would follow the same precedent as the process undertaken in the past for red yeast rice, allowing a dietary supplement to contain a level of a naturally occurring drug ingredient that is deemed safe by FDA.

The coalition said that as the primary enforcers of respective states’ consumer protection laws, state attorneys general offer a unique perspective on this emerging market of cannabis-derived products. They said they want to ensure that FDA, in considering the regulation of these products, incorporates the feedback of state attorneys general and that the states maintain a role as regulators in the marketplace.

Currently, under the recently passed 2018 Farm Bill, which legalized the cultivation of hemp under the authority of the U.S. Department of Agriculture, states have the responsibility of developing plans for how to regulate hemp within their borders. Recently, states such as Missouri, Texas, and Louisiana passed legislation authorizing hemp agriculture. Louisiana, in its law, created specific provisions for CBD products, only allowing the sale of foods and cosmetics containing CBD and preventing them from being marketed as dietary supplements.

“Ultimately, the responsibility for protecting consumers that use cannabinoids and CBD products cannot solely be left to the companies supplying products—that responsibility must include the FDA with...
CAN YOUR PROBIOTIC SURVIVE?

From chewable bunny tablets, to gummies, capsules and tablets, your probiotic must survive and you can be sure it will with Sabinsa’s LactoSpore® probiotic. Stable at room temperatures, safe and clinically tested LactoSpore efficiently supports a healthy balance of natural microflora in the gastrointestinal tract; helping the body’s natural defenses to effectively combat stress and imbalances.* LactoSpore being in naturally encapsulated spore form remains viable on processing and storage, advantageously producing the beneficial L (+) form of lactic acid and other healthful metabolites upon delivery.

PATENTS: US 9,579,352; US 9,717,766; AU2015308650

sabinsa.com  |  lactospore.com
meaningful partnerships with the states and State Attorneys General,” wrote the coalition. “We applaud the FDA’s recent steps, including the formation of the CBD working group focused on exploring pathways for dietary supplements and food regulation, seeking to clarify code citations, regulating cosmetics, and researching existing science and developments.”

FDA Issues Warning Letter to CBD Product Manufacturer Curaleaf

FDA issued a warning letter on July 22 to Curaleaf Inc. (Wakefield, MA) for selling products containing cannabidiol (CBD) online alongside what the agency said are unsubstantiated claims. In an agency press release, FDA characterized the Curaleaf products as illegal and unapproved. This is the fourth warning letter to be sent to a CBD manufacturer in 2019. The previous three were issued simultaneously on March 28, coinciding with the announcement from former FDA Commissioner Scott Gottlieb, MD, of an internal agency working group tasked with exploring the potential regulatory pathways for cannabis-derived products, and a May 31 public hearing to collect information and testimony on the subject of cannabis and cannabis-derived products.

“As we examine potential regulatory pathways for the lawful marketing of products containing cannabis and cannabis-derived compounds like CBD, protecting and promoting public health remains our top priority. Selling unapproved products with unsubstantiated therapeutic claims—such as claims that CBD products can treat serious diseases and conditions—can put patients and consumers at risk by leading them to put off important medical care. Additionally, there are many unanswered questions about the safety, safety, effectiveness, and quality of unapproved products containing CBD,” said Acting FDA Commissioner Ned Sharpless, MD, in a press release. “Today’s action demonstrates that the agency stands firm in its commitment to continue monitoring the marketplace and protecting the public health by taking action as needed against companies that deceive consumers and put them at risk by illegally selling products marketed for therapeutic uses for which they are not approved, such as those claiming to treat cancer or Alzheimer’s disease.”

FDA specifically called out Curaleaf’s CBD Lotion, CBD Pain-Relief Patch, CBD Tincture, and CBD Disposable Vape Pen as unapproved drugs in violation of sections 505(a) and 301(d) of the Federal Food, Drug, and Cosmetic Act (the FD&C Act), 21 U.S.C. 355(a) and 331(d); as well as being misbranded under section 502(f)(1) of the FD&C Act, 21 U.S.C. 352(f)(1). The firm’s Bido CBD for Pets products, said FDA, are also unapproved new animal drugs under section 512(a) of the FD&C Act, 21 U.S.C. 360b(a), and adulterated under section 501(a)(5) of the FD&C Act, 21 U.S.C. 351(a)(5).

The agency cited product web pages that stated that Curaleaf’s CBD Disposable Vape Pen is “for chronic pain,” and the CBD Tincture is a “soothing tincture for chronic pain.” FDA also took issue with educational web pages on the company’s site, which it said made statements about the benefits of CBD for specific conditions like attention-deficit/hyperactivity disorder (ADHD), anxiety, Parkinson’s disease, Alzheimer’s disease, and depression.

FDA quoted a number of statements found on these web pages that the agency considers unsubstantiated claims, including:

- “CBD oil is becoming a popular, all-natural source of relief used to address the symptoms of many common conditions, such as chronic pain, anxiety… ADHD.”
- “CBD has also been shown to be effective in treating Parkinson’s disease.”
- “CBD has been linked to the effective treatment of Alzheimer’s disease…”
- “CBD is being adopted more and more as a natural alternative to pharmaceutical-grade treatments for depression and anxiety.”
- “CBD was effective in killing human breast cancer cells.”
- “A 2018 study showed that CBD offers quick relief of depression and anxiety symptoms and that the residual effects can last up to seven days.”

“We will continue to work to protect the health and safety of American consumers from products that are being marketed in violation of the law through actions like those the FDA is taking today. At the same time, we also recognize the potential opportunities and significant interest in drug and other consumer products containing CBD,” said FDA Principal Deputy Commissioner Amy Abernethy, MD, PhD, in a press release. “The agency has a well-established pathway for drug development and drug approvals, and we remain committed to evaluating the agency’s regulatory policies related to other types of CBD products. We plan to report our progress by early this fall as we expedite our work to address the many questions about CBD. The step-wise, science-based approach we’re taking protects patients and the public health, fosters innovation for safe and appropriate products, and promotes consumer confidence.”

Abernethy is co-chair of FDA’s internal agency working group for cannabis-derived products, along with principal associate commissioner for policy Lowell Schiller.

In a statement, Curaleaf stated: “Curaleaf is committed to the highest standards of quality and compliance, and will work collaboratively with the FDA to resolve all issues addressed in the agency’s letter. The Company will respond to the FDA letter within the required 15 working days. Compliance is a top priority for Curaleaf and the Company is fully committed to complying with FDA requirements for all of the products that it markets. We can affirm that nothing in the letter raises any issues concerning the quality and consistency of any Curaleaf product or calls into question the high safety standards of the Company’s cultivation and manufacturing processes. Curaleaf CBD products are all derived from hemp and meet the requirements of the Farm Bill.”
Injuv® is a skincare nutraceutical that moisturizes from the inside out, helping your skin stay hydrated. It contains a hyaluronic acid (HA) complex, which acts as a sponge to hold onto water within the cells of the skin, connective tissue, and cartilage.

With age, time takes its toll on skin: it becomes dry and HA levels decrease, further exacerbating the moisture loss problem. Injuv® helps replenish what time has stripped away.

Soak in beautiful skin with Injuv®...exclusively from Soft Gel Technologies, Inc.®

Please visit us at SupplySide West October 17-18
Booth #3959 • Mandalay Bay Hotel, Las Vegas, NV
Enforce Us!

A CEO writes about the dietary supplement industry’s need for stronger regulation.

By Rob Fried, CEO of ChromaDex

Three out of every four Americans take a dietary supplement—and that number is growing. Yet, current regulations governing this massive market do not ensure that those supplements consumers are purchasing do what they say they do or even include the ingredients they claim to include. And that must change in order to protect consumer health and to ensure that honest companies operating in this space have a level and fair playing field.

To establish rules to guide the health supplements market, Congress passed the Dietary Supplement Health and Education Act (DSHEA) in 1994. But, while well-intentioned, DSHEA’s rules are not strong enough, and, more importantly, they are not enforced to their fullest. And that opens the door for unscrupulous players in this market to introduce products that are not effective and not based on science, to make baseless and false claims about the efficacy of their products—or even to steal the intellectual property of other companies and claim it as their own.

A few bad actors diminish the reputation of the entire industry, erode consumer confidence in the products they are buying, and even threaten the health of consumers who are taking these products. Although it is uncommon, perhaps, for a company CEO to request stronger regulations and regulatory enforcement for his or her industry, that is precisely what I am doing. Poor enforcement and lax regulation are a problem for my company and for every other company in our market following the rules, investing in science and health discovery, and rigorously testing the efficacy of its products. We need everyone in this dynamic and fast-growing market to understand and follow clear rules and regulations—and to be penalized or removed from the market if they refuse to do so.

Even the U.S. Food and Drug Administration recognizes that current regulations are not keeping pace with this vibrant market. That is why the agency recently hosted a meeting of industry leaders, academics, legal experts, and other key stakeholders to discuss the issues of regulation and enforcement and how to balance promoting innovation, scientific rigor, and consumer safety.

In my view, the process toward stronger market enforcement should focus on three simple steps.

Enforcement

The first step is enforcement. FDA requires notification any time a dietary supplement is introduced with a new ingredient, and proof that the supplement is safe for consumers. This is a good process that, when followed,
leads to better products, champions the integrity of our industry, and, most importantly, protects consumer safety.

Unfortunately, it is not enforced, and bad actors are able to ignore the rules, bring products to market with limited substantiation or consumer safety protections, and steal the intellectual property of responsible companies who have made their science public through the notification process. Better enforcement and improvements to the process are desperately needed.

Incentivize
The second step is to introduce new incentives for compliance and investment in good science. For example, the same approach FDA used with drug companies to provide exclusivity rights could be applied to the dietary supplements industry. This approach would not only provide intellectual property protections, but it would also incentivize investment in science which would, in turn, elevate the integrity of the entire industry and weed out companies lacking scientific substantiation for their products.

Claims Substantiation
The third step is to establish rules that require companies to provide consumers with accurate information on the health benefits of their products, and to support those claims with sound, well-documented science. This would allow consumers to be better educated about the steps they can take today to improve their quality of life and to have confidence in the products they are buying.

The net result of these three important steps would be enhanced consumer safety protections, greater industry compliance, more pervasive and robust science, and increased consumer clarity and education. Not a bad return on smart regulation end enforcement.

At the end of the day, consumers who are looking for products that promote their health and wellness should be able to trust the safety of what they are consuming and the companies behind those products.

I am so proud to be part of an industry that each day strives to improve the lives of people worldwide and does so with state-of-the-art science from some of the world’s greatest minds. But so great a mission makes the shortcomings that much worse. That is why I am asking everyone in our market to join me in calling for more rigorous rules and better enforcement, and to provide support for the FDA as they take on this challenge. Working together, we can promote a thriving marketplace in which good science is rewarded, compliance is attractive, and public safety is protected.™

Rob Fried is the CEO of ChromaDex (Irvine, CA; www.chromadex.com), an integrated, global nutraceutical company devoted to cellular health and improving the way people age. A seasoned chief executive officer, successful entrepreneur, and enterprise builder, Mr. Fried has a track record for driving transformational growth across a variety of industries. He is an Academy Award-winning motion picture producer and Emmy Award-winning television producer. He holds a B.S. from Cornell University and a M.B.A. from the Columbia University Graduate School of Business.
Can blockchain help today’s dietary supplement companies boost supply chain transparency?

BY TJ GUPTA, TAGONE

In the natural products industry, the number of transactions that take place, from the seed of a natural ingredient (often sourced from a foreign supplier) to the finished product sitting on the shelf, is staggering. Managing the complexity of this global supply chain can be an arduous undertaking for any company.

What makes the task even more challenging is the growing demand for comprehensive transparency from both consumers and regulators. Supplement companies are now expected to know the origin, quality life cycle, and source of their ingredients, all in the face of greater demand for limited resources. Running a tighter and more transparent supply chain is not just a “nice to have” option anymore; it’s quickly becoming a “must have.” This work will have to be done sooner or later as companies set themselves up for future success.

The good news is that this problem has been previously solved in other industries, and it is being increasingly addressed in the dietary supplement industry also. The great news is that we now have the added help of a technology called blockchain.

What Is Blockchain?
In simple terms, blockchain is a digital ledger that records a list of transaction records called blocks. Each block contains both a time stamp and transaction data. A key feature of blockchain is that the data entered once within a given chain can never be deleted and, at most, can be appended. In other
words, if someone wants to make a change, their only recourse is to create a new block that lets others know about the change.

In effect, this creates an audit trail that cannot be manipulated, creating a fully transparent, ongoing sequence of transactions. Think of this like a more complex “redline” version of a Word document that can’t ever be removed. In the world of supply chain traceability, blockchain is a game changer.

**Public vs. Private Blockchain**

A common misconception is that all blockchains are public in nature. This idea seems to have been driven by media coverage of the world’s most popular blockchain and cryptocurrency use case: Bitcoin. In reality, blockchains can be set up in different ways and could be public, private—or somewhere between the two, which is called a consortium blockchain (or semi-private). Let’s examine these three types.

Public blockchains are completely open to the public. Anyone with an internet connection can send transactions to the blockchain and become a validator (i.e., participate in the execution of a consensus protocol). Usually, such networks offer economic incentives for those who secure these transactions, which utilize a proof-of-work algorithm.

Private blockchains, on the other hand, are permission based and restrict access only to trusted entities. This is considered a middle ground for companies that are interested in using blockchain but that are not yet comfortable with the level of control offered by public networks. Think of it as a database, but with additional benefits of cryptographic auditability, immutability, and transaction identity that can be traced with time stamps associated with specific parties.

Consortium, or semi-private, blockchains are a hybrid of the two. Instead of a single organization with control, multiple companies may operate a node on a network. The administrators of a consortium chain restrict users’ access rights as needed and only allow a limited number of trusted nodes to execute a consensus protocol.

**How Blockchain Can Help You**

The implementation of a blockchain-enabled supply chain management system will enable companies to not only have an immutable digital ledger to track all of their supply chain information, such as data and transactions with their suppliers and buyers, but also give them the capability to trace specific ingredients, from “seed to shelf.”

Once these systems are integrated, traceability capabilities can be incredibly fast. In a highly publicized recent experiment, Walmart was able to identify the farm and farmer of a mango sold in its stores in 2.2 seconds using a blockchain implementation. Previously, it had taken the company almost a week to accomplish this same task. However, a cautionary note here: response times for blockchain solutions are a function of the specific use case and the blockchain architecture. Scenarios dealing with a large amount of data, copied and stored across a large network of participants and running a consensus protocol for validation, can take much longer to run.

But there are potential implications here: with full traceability, problems can be isolated quickly and managed without a large-scale, public recall. This can eliminate any consumer fears of escalation and preserve significant revenue for growers, distributors, and retailers alike.

Blockchain’s benefits extend beyond crisis management, too. Audits become significantly easier to handle and much less time consuming. Organizational leadership will also have the ability to view the entire supply chain on a single platform, empowering them to manage proactively and opening the door to process improvement, insightful vendor analysis, and increased visibility on profit-generating tactics.

**How Blockchain Can Help the Natural Product Industry**

Many industry leaders in natural products, such as MegaFood, Gaia Herbs, Cepham, and Califia, have committed to high-quality products and sustainability. They are investing considerable time and effort in driving transparency initiatives within their supply chain network to lead their respective industries. With more visibility of their supply chain, the better they can serve their customers and end consumers, who make decisions based on trust.

But in reality, many companies continue to focus on a short-term, “profit at any cost” philosophy rather than doing what’s best for the consumers’ health or the long-term success of the industry. As price becomes a focal point, many companies continue transacting in sub-quality ingredients, severely compromising quality and thus the benefit of what consumers put in their bodies.

Imagine if adulterated Tylenol tablets didn’t fix my headaches anymore. Would I still continue buying them?

But what if the consumer could become informed about which brands are using pure products? What if they knew exactly which part of the world their curcumin extract came from and which farmer grew it? What if they also knew that this curcumin brand was paying farmers fairly and following fair trade practices, and therefore committed to sustainability?

Blockchain technology can validate these “claims,” which were practically impossible for the consumer to track, and allows companies to share them on mobile and desktop devices. In essence, what was simply “doing the right thing” for integrity-oriented companies will be a brand differentiator.

Considering that natural products are both finite in nature and sourced globally, the potential impact on the industry of integrating blockchain could be extensive. Imagine a world where we are tracking all natural products from seed to shelf on a supplement.
industry blockchain. For example, let’s assume, in a specific year, we had a hypothetical crop of 1000 tons of turmeric globally, but 1200 tons were in circulation. (Remember our supply and demand imbalance!) With blockchain, we will instantly know that there was an imbalance and an extra 200 tons was on the market, which would have to be attributed to adulteration.

Finally, adverse events can be tracked back with speed and precision, which keeps consumers safe and confident as to what they are putting in their bodies.

Where Are We Today?
The big question is: Can blockchain become an industry mainstay and help today’s dietary supplement companies integrate transparency in their supply chain? The answer is “yes.” But let’s keep in mind that this is still an evolving technology that is yet to reach its end state.

Companies planning to move forward with their transparency journey need to look at blockchain as an amazing tool that will make global supply chain transparency a reality. But blockchain technology is not so much the solution itself as it is an isolated platform. Blockchains provide the auditable, immutable data backbone to supply chain systems, which work together to help address transparency challenges. Think of blockchain like a turbo boost in a car. You still need a great car, and blockchain will make it better. And, like any other significant technological change, basic operational principles of systems, processes, and procedures are critical components to maximizing any organization’s investment in supply chain transparency using blockchain.

Ultimately, blockchain is not a savior of natural products and dietary supplement problems, but over time, with forward-thinking leaders, it will solve a myriad of operational challenges, eradicate bad players, and build trust with consumers.

TJ Gupta is CEO of TagOne (Princeton, NJ). TagOne is a supply chain management advisory and technology company that delivers transparency to the natural foods industry through expertise and innovation in supply chain management. TagOne’s supply chain management platform is an example of a private blockchain. TagOne empowers B2B customers with End-to-End (E2E) track-and-trace processes and capabilities, resulting in increased operational integrity, reduced waste, and leadership visibility. Learn more at www.TagOne.com.

Reference
Ashland’s Klucel nutra™ plus provides the premium binding ability of Klucel nutra™ modified cellulose, widely known in the dietary supplement industry for superior performance, with ideal disintegration properties for improved bioavailability. Klucel Nutra™ plus is designed to facilitate an economical, one-step excipient for direct compression tableting.
BEYOND CBD

Other cannabinoids in hemp and their exciting potential as ingredients

BY JAKE BLACK, PHD, CO-FOUNDER OF TREEHOUSE

With the hemp-derived cannabinoid cannabidiol (CBD) enjoying widespread public interest and acceptance as a compound that exhibits a range of health benefits, a major question remains: What’s next? To date, consumer interest in cannabis-derived ingredients has centered on the most abundant “major” cannabinoids in the cannabis flower: CBD and tetrahydrocannabinol (THC). (THC is the psychoactive ingredient in marijuana.) However, with more than 120 other naturally occurring cannabinoids known to exist in the hemp plant (Cannabis sativa), the potential for these other molecules as dietary supplement ingredients is nearly endless. In fact, the full range of cannabinoids has yet to be explored both scientifically and by consumers.

Recent interest in hemp-derived ingredients has begun to shift to the “minor” cannabinoids: cannabigerol (CBG), cannabichromene (CBC), and cannabiol (CBN). The newfound interest in these cannabinoids is likely a result of their relative abundance in the plant and ease of access compared to many of the rarer cannabinoids. CBG, CBC, and CBN are the next most common cannabinoids in cannabis after CBD and THC, and as such the only molecules currently feasible to begin using in nutraceuticals.

A wealth of anecdotal information on these minor cannabinoids can be found on the internet, but unfortunately very little of this information is supported by rigorous scientific research to date. Some studies have implicated CBG and CBC in the treatment of inflammatory disease states, and CBN has been implicated—though weakly—as a potential sleep aid.

Findings from individual studies like these certainly do not form a basis for medical treatments or other health uses, but the National Institutes of Health (NIH) has acknowledged the beneficial health potential of these molecules, recently announcing R21 grants ("intended to encourage exploratory/developmental research by providing support for the early and conceptual stages of project development") for the study of the effects of these cannabinoids (and others) as they relate to pain treatment.

As more rigorous scientific study is allowed, funded, and performed, the potential of hemp-derived cannabinoids outside of just CBD is massive. The rest of this article will highlight the three most exciting avenues of product development for manufacturers looking to work with a wider range of cannabinoids, as well as the challenges that remain.

Opportunity #1: Full-Spectrum Products
The first illustration of the potential of working with a broader range of cannabinoids outside of just CBD is “full-spectrum” products and their widely discussed “entourage effect.” The entourage effect is a phenomena that has been cited in a handful of scientific papers and boils down to the notion that...
a mixture of cannabinoids works better, or differently, than a single cannabinoid in isolation. These findings are not inherently shocking. Many plant extracts containing a mixture of molecules are known to work synergistically with more potent effects, compared to individual isolated compounds in these same extracts. Minor cannabinoids in hemp extracts, for instance, may play an important role in these synergistic, full-spectrum products.

Even as the popularity of full-spectrum products grows, there is still a lot we don’t know about their effects. Though the entourage effect has been scientifically documented, claims of efficacy online far outpace the supportive science. In the case of CBD, the primary study validating these claims is a study treating mice suffering from inflammation. The study authors noted that CBD isolate (a pure formulation of the individual cannabinoid) exhibited a bell-shaped dose response—i.e., a certain dosage demonstrated maximum efficacy, and increasing dosages actually had diminishing medicinal effects. In contrast, it was observed that mice treated with a “full-spectrum” extract, which included the cannabinoids CBD, THC, CBG, CBC, and CBN, plus terpenes and other plant molecules, experienced increasing medicinal effects as the dose increased, corresponding to a linear increase in efficacy as compared to the bell-shaped response from pure CBD isolate.

It is not possible from this study alone to discern which constituents of the “full-spectrum” extract were responsible for the increased efficacy. Perhaps the CBG present in the extract was solely responsible for the effect, or perhaps the combination of CBG and CBC with CBD was important. Or maybe it was just the CBC itself. Any claims made online about the nature of the effect seen in this study surmising which molecules were responsible for efficacy have yet to be fully scientifically validated.

Moving forward, it will be important to not only study the effects of individual cannabinoids, but to study mixtures of cannabinoids and terpenes in a controlled and scientific fashion. This simply has not been done to date. Full-spectrum extracts as ingredients may truly have different or greater medicinal effects, but current claims should be treated as anecdotal at best.

Along with the difficulties in producing THC-free full-spectrum extracts, another challenge is that there is a myriad of misinformation and debate about what full-spectrum actually means. Unfortunately, there is currently no widely accepted definition of full-spectrum. Some individuals claim that all cannabinoids, including THC, must be present in a true full-spectrum extract, while others claim that only CBD and terpenes must be present. Still others claim that a diluted extract—with THC, CBG, and CBC present at levels below 0.3% or at undetectable levels—is still considered full-spectrum. For now, manufacturers and consumers have to decide on their own accepted definition. Manufacturers sourcing or offering a “full-spectrum” extract should therefore be knowledgeable about the minor cannabinoid and terpene content of their product.

Opportunity #2: Formulating with Select “Minor” Cannabinoid Isolates

Given the current complexities pertaining to full-spectrum extracts, some manufacturers may find it useful to consider formulating with specific “minor” cannabinoids. As mentioned above, the current understanding of
the medicinal effects of these minor cannabinoids is sparse, and this area of research is still in its infancy. However, one can imagine the exciting future opportunities to create nutraceuticals as the understanding of how these cannabinoids work is further developed. Unique formulations created with mixtures of cannabinoids could provide different health benefits, especially when formulated together in a controlled fashion.

For instance, CBG and CBC isolates are becoming available in the marketplace and represent an exciting formulating opportunity. With these and other isolates, formulators can begin to tinker with new ratios of cannabinoids, creating truly unique cannabinoid mixtures. It is easy to picture a nearly infinite variety of cannabinoid-rich products tailored for specific health effects. Examples of this could include a 1:1 ratio of two cannabinoids in a tincture (e.g., 500 mg of CBD and 500 mg of CBG). Alternatively, a product with three cannabinoids at different ratios could be formulated, such as a lotion with 30% CBD, 15% CBC, and 5% CBG.

The ability to play with the cannabinoid ratio “lever” is one of the most exciting and powerful tools formulators have, especially as new technologies enable the isolation of more and more cannabinoids. Aside from the ability to make highly standardized cannabinoid products using isolates (something that is impossible when using raw hemp extracts and unprocessed full-spectrum oil), isolates offer the additional benefit of enabling a high content of minor cannabinoids in end consumer products while avoiding the legal troubles encountered when formulating with extracts or distillates that contain high quantities of THC.

Opportunity #3: High-Potency Full-Spectrum Cannabinoid Powders

Though it is widely assumed that the only way to capture the benefits of the entourage effect is through full-spectrum hemp extracts and distillates in their crude oil form, recently, full-spectrum powders have begun hitting the marketplace. This unique product format offers many of the benefits of full-spectrum products, including the opportunity to work with a wider variety of cannabinoids, while avoiding the processing and manufacturing difficulties encountered when working with highly variable and viscous full-spectrum hemp extracts or distillates. High-potency cannabinoid powders can be formulated with both major and minor cannabinoids, and also contain terpenes and other phytochemicals from hemp. When thinking of exciting opportunities for manufacturers trying to expand past the standard CBD products on the market today, the ease of production and standardization enabled by full-spectrum powders makes them worth specifically focusing on.

Crude hemp extracts and distillates are notoriously cumbersome to work with because of their highly viscous and “sticky” nature. In formulators’ hands, these often clog equipment, stick to processing machinery, and create a general mess. To avoid these problems, formulators are forced to work with the extracts and distillates at high temperatures, which has been shown to degrade valuable cannabinoid material over time, especially in the presence of oxygen.

There are more than 120 naturally occurring cannabinoids known to exist in the hemp plant, and there may be many with potential as dietary supplements.
High-potency cannabinoid powders, on the other hand, provide a great platform for formulators because they can be processed at room temperature, avoiding cannabinoid decomposition, and with all the equipment commonly used in the industry to handle powdered ingredients.

High-potency cannabinoid powders contain specific ratios of cannabinoids—as well as the terpenes, fatty acids, and proteins from hemp extracts—and can be used to easily formulate a host of products, including: lotions, baked goods, tinctures, and water-soluble formulations. Additionally, though high-potency cannabinoid powders often contain high percentages of CBD, a formulator does not have to worry about the “crash-out” problem encountered when using distillates with similarly high levels of CBD. (The “crash-out” problem occurs when CBD distillates with greater than ~50% CBD form crystals in the oil, leading to inconsistent and heterogeneous formulations, as well as crystal blockages in processing equipment). A final benefit of high-potency cannabinoid powders is that, similar to cannabinoid isolates, they can be made completely THC free.

Endless Possibilities
With the recent explosion of the CBD market, it is an exciting time to be a nutraceutical manufacturer working with hemp-derived ingredients. The new avenues of working with THC-free ingredients that contain high concentrations of minor cannabinoids outlined above are just a few of the most exciting breakthroughs in the market to date.

As the science behind the health benefits of the individual cannabinoids and cannabinoid mixtures develops, the market is ripe for a plethora of new products. With consumer awareness and acceptance of the true medicinal benefits to be gained from cannabis at an all-time high, there has never been a better time for product formulators and manufacturers to start working with hemp-derived ingredients. [1]

References

Unique formulations can be created with mixtures of cannabinoids.
Interest in medium-chain triglyceride (MCT) oil and MCT-enriched products has grown significantly in recent years, particularly among consumers and brands in the natural products industry. Data provided to Nutritional Outlook by SPINS (Chicago, IL) indicates that MCT product sales grew by 2% in the 52 weeks leading up to November 2018, and Grand View Research predicts that the global MCT market will be worth $2.46 billion per year by 2025.¹

MCTs, fatty acids commonly sourced from coconut and palm kernel oils, have come to prominence for their reputation as weight-loss supplements. Consumers are adopting MCT products for all manner of applications, using it to promote weight loss, brain health, ketosis, and more.

Why are consumers so drawn to MCTs these days? "Let’s just say, ‘Fat is back!’—and we think it is here to stay," says Amanda Coulter, marketing manager for Abitec Corp. (Columbus, OH), a supplier who has manufactured MCTs for more than 25 years.

Coulter continues: "Numerous scientific studies have shown that consuming the right kinds of fats can not only help you lose weight and feel more energetic but also help you live a longer and healthier life. Saturated fats like MCTs have been shown to support a variety of benefits, including supporting normal cognitive requirements, sports performance, energy, satiety, and nutrient absorption. MCTs are naturally found in coconuts and palm, and the body can easily digest saturated fats for fuel to energize the brain and body." The medical establishment has also used MCTs in cases of malnutrition and nutrition malabsorption, as MCTs are...
high-energy compounds that are relatively easy to metabolize.

Health benefits like these are driving renewed interest in MCTs, Coulter says. "MCTs have been around for decades, and in the last five years, there has been a lot more focus around them as a beneficial addition to your daily diet. With the comeback of the Keto Diet, which originated back in the 1920s, more companies are focusing on the 'high-fat' component of their nutritional products. Many manufacturers have turned to MCTs for a multitude of reasons, including the scientific evidence, proven health benefits, ease of use, and the improved functionality they bring to their products and formulations."

MCTs also offer a relatively flat and neutral taste profile, making them ideal for use in a variety of food and supplement products. Coulter says they can be used in everything from pills, powders, and liquids to baked goods, snacks, candy, and beverages.

More companies are definitely taking advantage of the market opportunities that MCTs afford. "The MCT market is definitely growing and doesn’t appear to be slowing down anytime soon," Coulter says. "As an MCT manufacturer, we have noticed a vast spike over the last year of nutritional companies adding MCT oil as a dietary supplement to their portfolio. The number of companies offering a bottled MCT oil on the market today is close to triple the number 18 months ago."

She also cautions formulators to select their MCT supplier carefully. Remember, she says, that "not all MCT oils are alike, and certainly the variety of sources and purity are widespread, so it’s important to know what you are getting before you make that purchase."

With that in mind, here are just some of the trends behind the rise of the MCT market.

**MCT Health Benefits**

MCT products have a wide variety of applications, from brain health to sports performance and beyond. Most notably, MCT oil has a long history as a weight-loss supplement due to its ability to induce a higher rate of fat oxidation during exercise.

One randomized, controlled-feeding crossover trial followed 19 overweight men in their 40s, with a BMI range of 27.3 to 28.3, for a period of four weeks. Participants were fed a diet rich in either MCT oil or long-chain triglyceride (LCT) oil throughout the trial. Researchers measured energy expenditure and body composition through calorimetry and MRI technology at baseline and at the end of each feeding period. The researchers found that relative to LCT oil, MCT oil supplementation resulted in a greater decrease in body weight and a greater increase in fat oxidation. MCT oil consumption also resulted in a reduction in concentrations of subcutaneous adipose tissue.7

Beyond fat loss, though, MCT oil is incorporated into sports nutrition regimens in other ways. It is often used as an endurance...
MCTs

Consumers are adopting MCT products for all manner of applications, including weight loss, brain health, and ketosis.

enhancer and immune booster, particularly during high-intensity interval training. MCT-enriched products have also long been popular in the ketogenic diet community thanks to their high-fat, high-energy composition and the fact that consuming MCT oils increases ketone concentrations.

Finished-Product Trends in the MCT Space

MCTs are seeing incorporation in a variety of finished product formats. Bioriginal (Saskatoon, Saskatchewan, Canada) launched a coconut-based ketogenic MCT powder enriched with collagen and whey in November 2018 at SupplySide West.3

“Consumers want portion packages and on-the-go solutions for this product that is becoming part of everyday lifestyles,” Bioriginal President Joe Vidal said in a press release.4 Bioriginal launched its branded ingredient InstaMCT Pro as a powder available in stick packs, and touts the product as a convenient, travel-friendly MCT oil option.

But it’s not just stick packs that are making MCTs more convenient. Brands like Wonder Fuel (La Jolla, CA) and Ethan’s (Boulder, CO) are producing MCT products such as shots and ready-to-drink beverages, giving consumers a more convenient MCT supplement that’s ideally suited for an on-the-go lifestyle.

The Future of MCT Products

The MCT products market is a rapidly growing new niche, one that offers a number of opportunities for innovative brands. As the MCT market continues to grow, consumers will look for convenient, travel-friendly, and clean-label options that offer the functional benefits of MCTs without any fillers. For mainstream consumers, convenience will be key. Expect consumer interest in MCT products to continue growing and diversifying into increasingly convenient and familiar product formats.

Mike Straus is a freelance journalist living in Kelowna, Canada. He has written for publications including Canadian Chiropractor Magazine, UX Booth, and Iconic Concierge Vancouver.

References


After 25 years of DSHEA—the landmark legislation balancing consumer access with safety under FDA oversight—dietary supplements are mainstream and used by more than 170 million Americans to promote health and wellness.

**DESTINATION: VITALITY**

Join CRN as we look ahead to the next 25 years. Hear from speakers who’ll help us be prepared for the unlimited possibilities before us, connect with your industry colleagues, and face the future together.

www.crnusa.org/2019events
Of all five senses," observes Karen Hecht, PhD, scientific affairs manager, AstaReal USA Inc. (Burlington, NJ), "vision is the prime one most of us rely on for information." A Research!America poll even found that 88% of respondents consider vision to be vital, with 47% agreeing that losing sight would have the most impact on their lives, precipitating lost independence and a dramatic disruption of daily activities.¹

So it’s surprising—and a little ironic—that vision is also the sense that’s easiest to take for granted, until it starts to wane. And with screen time, blue light, environmental assaults, and the process of aging all exacting a toll on our eyesight, that time of waning is arriving sooner than before.

But it doesn’t have to, for researchers are finding that dietary supplementation can go a long way toward shoring up ocular health and protecting eyes against the battery of threats they face. The science—and the possibilities for nutritional interventions it suggests—are worth looking at.

Eyes in Danger
Given vision’s primacy in our lives, it’s remarkable how sensitive and vulnerable the organs responsible for it are. But they’re hardly defenseless.

As Brian Appell, marketing manager, OmniActive Health Technologies (Morristown, NJ), explains, “We’re constantly bombarded by different wavelengths of light, including UV and high-energy blue light. The good news is that eyes are incredibly effective at blocking UV radiation from the sun, only allowing about 1% to reach the retina, which is at the very front of the eye.”

The bad news is that eyes are less adept at filtering the high-energy blue light emitted not only by the sun, but from digital device screens and even energy-efficient lighting. “In fact,” Appell says, “almost all blue light reaches the retina and travels all the way to the macula, which is located at the very back of the eye.”

Modern Problems
High-energy blue light is a concern on a number of counts. For one, it generates considerable oxidative stress within the eye. It also reduces contrast, which keeps eyes in a continual state of having to re-accommodate focus. This overworks the ciliary muscles that help our eyes adjust to viewing at different distances, and it produces the eye strain and fatigue that go by the very 21st-century name of computer vision syndrome, or CVS.

While this news won’t likely convince us to abandon our digital devices, it may further complicate our love/hate relationship with them. For Hecht notes that the average American spends 7.5 hours daily focusing on screens at an average distance of 14 inches away, bathing their eyes in the blue light and ciliary stress that cause 65% of American computer users and approximately 60 million people worldwide to suffer from eye strain.
Even kids get hit. While 66% of U.S. adults cop to spending too much time on digital devices, research by Kemin (Des Moines) reveals that fully 69% of parents of 6- to 12-year-olds report not only that their child uses digital devices, but that their use won’t likely diminish, as it’s part of both leisure and school routines.

Macula Matters
That means exposure to blue light starts early and worsens with time. But the eye’s macula—a pigmented region specialized for high-acuity vision and a victim of blue light—may contain the secret to countering the high-energy wavelength’s menace.

That’s because it’s where the three main macular carotenoids congregate: lutein in the peripheral macula, RR-zeaxanthin in the mid-peripheral macula, and RS-zeaxanthin in the center. “The macular carotenoids are imperative to healthy vision for a lifetime,” Appell explains, “and as more science comes out, it seems their ‘magic’ comes from the combination of all three.”

However, the body doesn’t produce lutein and the zeaxanthin isomers de novo, and we know dietary intake to be low. As a result, “The average individual isn’t getting enough from dietary sources to increase their macular pigment optical density—or MPOD—to a level that provides significant protection from blue light,” says Ceci Snyder, MS, RD, global vision product manager, human nutrition and health, Kemin (Des Moines).

The Case for Supplementation
That’s where supplementation comes in. “Solid scientific evidence supports the benefits of supplementation with lutein and zeaxanthin for eye health;” Snyder continues, pointing to the largest study to examine its effects on age-related macular degeneration (AMD) thus far: the Age-Related Eye Disease Study 2 (AREDS2), conducted by the U.S. National Eye Institute.

Appell agrees, adding that while no defined requirement for the major dietary carotenoids yet exists, the data suffices to consider lutein and zeaxanthin’s isomers “conditionally essential,” he says. “Their importance to eye health should not be understated, especially considering the growing prevalence of AMD, one of the leading causes of vision impairment globally.”

Beyond Baseline
The evidence supporting macular carotenoids’ protective effects is undeniable, and imperative, given the threats to basic ocular health we face. But, Appell notes, emerging research is affirming how these nutrients not only help us see, period, but help us see better.

Endpoints like contrast sensitivity, photo-stress recovery, and glare performance are all quantifiable measures of how well we see under different circumstances. Appell says, and as such, they offer “a huge opportunity in the eye-health market.”

Consider that “how we react within our environments starts with how rapidly visual information travels from our eyes to our brain—visual processing speed,” Appell says. “Improving visual processing speed through supplementation provides new opportunities in categories like sports nutrition, where reaction time is key.”

So a time will come when the eye-health category will be about more than just prevention; it’ll offer optimization, ‘providing immediate’ benefits that are important and relevant to consumers,” Appell says. “That, in turn, requires new science to elucidate and support these benefits.”

Read on to see what some of that science is revealing.

ER Duty
As potent antioxidants and filters of blue light, lutein and the zeaxanthin isomers are gaining greater recognition for protecting against digital-device dangers. And while “the protective qualities of the macular carotenoids are well established,” Appell says, “the mechanisms by which they protect haven’t been well explored.”

An animal study published last year showed for the first time that blue light damages retinal tissue not only by promoting oxidative stress, but by increasing stress in the endoplasmic reticulum (ER), a cellular organelle that participates in protein synthesis.

The study also found that lutein and zeaxanthin—in the form of OmniActive’s Lutemax 2020 ingredient—downregulated genes involved in ER stress and thus protected the macula’s sensitive photoreceptors against blue-light exposure.

The study, Appell says, “further demonstrates the importance of consistent and adequate intake of these important nutrients for healthy vision.”

Good Sports
As Appell notes, “Improving visual processing speed and other key performance markers like disability glare and photo-stress recovery through supplementation provides new opportunities in different categories—like sports nutrition—where reaction time is key.”
A recent paper drew upon the LAMA II study—a year-long double-blind, placebo-controlled trial involving 59 healthy young subjects randomly assigned to 1) a placebo, 2) 10 mg of lutein plus 2 mg of zeaxanthin, or 3) 20 mg lutein plus 4 mg zeaxanthin (both as Lutemax 2020)—to demonstrate that MPOD, visual performance in glare, and photo-stress recovery improved significantly in both supplement groups relative to the placebo after six months, with further improvement emerging at 12 months.

The LAMA II results also showed that supplementation with all three macular carotenoids improved processing and reaction speed. "The study suggests that the positive findings may be, in part, due to the unique composition of Lutemax 2020, which contains all three macular carotenoids—lutein, RR-zeaxanthin, and RS (meso)-zeaxanthin," says Appell.

Looking Smart
"An exciting new area of research is the connection between eye and brain health," says Snyder. A study published in 2017 was the first randomized, double-blind, placebo-controlled trial to test the combination of 10 mg lutein (as Kemin's FloraGLO brand) and 2 mg zeaxanthin in healthy, well-nourished young adults, and it revealed increased visual memory and MPOD, and improved complex attention and reasoning ability.

Earlier this year, another study showed lutein’s benefits in enhancing connectivity between brain networks. The findings make sense, Snyder says, as lutein is the brain’s predominant carotenoid, and the mechanism behind its benefits may involve how the pigment “integrates into cellular membranes in specific directions, likely influencing the functional properties of synaptic membranes and the speed at which messages are transmitted across neurons.

The upshot: "For supplement brands, the opportunity to connect eye and brain health is an opportunity readily supported by science," Snyder says.

The Other Ocular Carotenoid
Astaxanthin belongs to the same xanthophyll carotenoid family as lutein and zeaxanthin, but boasts two to three times the antioxidant capacity. Even better, Hecht says, "Astaxanthin works in the muscles at the front of the eye that help support dynamic focus."

Hecht points to earlier clinical work showing that astaxanthin supplementation improves eye fatigue by quenching free radicals that trigger the inflammation associated with persistent visual stress and tension of the ciliary muscle. A preclinical study showed that as much as half of all astaxanthin in cellular membranes localizes in mitochondrial membranes, too. "This is important because mitochondria form free radicals as a byproduct of their metabolism," Hecht says. "With astaxanthin positioned at their source, it can protect mitochondria and energy production in the eye."

In a 2010 double-blind, randomized placebo-controlled trial, computer workers supplemented with 9 mg of AstaReal’s astaxanthin or a placebo for four weeks. At treatment’s end, 62% of those in the astaxanthin group who reported moderate to severe eye strain before the study experienced improvement, while only 15% of those taking a placebo did. "Increased accommodation amplitude in all treated subjects, for example, indicated improved reaction on near and far objects," Hecht says.

K2 Connection
We usually think of vitamin K2—particularly the menaquinone 7 (MK-7) form—as a nutrient for heart and bone health. But "new research has come to light identifying vitamin K2’s mechanism as benefiting vision health," says Kate Quackenbush, director of communications, NattoPharma (Oslo, Norway).

A 2018 study examined calcification-induced aortic stiffness as a factor in retinal arteriolar health, finding that circulating inactive matrix Gla protein (MGP) is a long-term predictor of smaller retinal arteriolar diameter in the general population.

Active MGP is a well-known inhibitor of vascular calcification, Quackenbush notes, and "vitamin K2 as MK-7 is the only compound to date shown to impact arterial calcification through its activation of MGP." Because obtaining an adequate vitamin K2 intake from diet alone is a tall order, the researchers note that their "observations highlight the possibility that vitamin K supplementation might promote retinal health."

"This new study is an exciting development for vitamin K2’s potential," Quackenbush says. "We already know that K2 supplementation can help the population support bone and cardiovascular health simultaneously; just imagine if one nutrient could support vision health at the same time."

References
BY THE NUMBERS

JOIN 17,000+ INDUSTRY PARTICIPANTS TO LEARN ABOUT GROWING MARKET TRENDS IN FOOD & BEVERAGE.

$152B
U.S. TOTAL FOOD & BEVERAGE SALES IN 2018

+6.6%
U.S. NATURAL, ORGANIC & FUNCTIONAL FOOD & BEVERAGE GROWTH IN 2018

+7.6%
U.S. FUNCTIONAL FOOD & BEVERAGE GROWTH IN 2018

*Source: Nutrition Business Journal, powered by SPINS

Register today at supplysidewest.com
In a market segment as old and enduring as grains, one might wonder if further innovation is possible. In fact, an exploration of grains reveals that not only has the definition of "grains" loosened and expanded in recent years to include some non-cereal-grass seeds and other plants, such as quinoa and chia, but commercial applications for grains have evolved and changed as well.

Traditional domesticated cereal grains, so-called "ancient grains," and non-cereal-grass seeds are now all gathered under the "grains" umbrella and are puffed into snacks, blended into other foods, formulated into beverages, and milled into concentrates. Grains are nearly as old as humanity itself, yet their dynamism in the commercial market remains strong.

**What Is a Grain?**

Conventional grains are the seeds or fruits of various grass crops, particularly the cereal grasses, harvested for human or animal consumption. These include wheat, maize, rice, barley, millet, oats, rye, and triticale, and their history is long, having served as staple foods for humankind for upwards of tens of thousands of years.

Some so-called "ancient grains" are conventional cereal grains as well, such as spelt and khorasan wheat (Kamut). Others, such as amaranth, buckwheat, and quinoa, are the seeds of broadleaf plants, sometimes referred to as "pseudograins."

What’s important, however, is that grains are now regarded and marketed as such based more on their nutritional profile and food application rather than their botanical classifications. With this newer, more-fluid definition of grains, suppliers, formulators, and marketers can tailor their grain offerings to consumers seeking lower-gluten or gluten-free choices, higher-protein choices, “cleaner” choices, and convenience.

**WHAT’S OLD IS NEW AGAIN**

The definition of a “grain,” as well as commercial applications for grains, have evolved.

BY MAUREEN KINGSLEY
What’s New in Ancient?

“The growing consumer interest in clean-label ingredients has put ancient grains at the top of all healthy grains,” says Olga Garcia, milling marketing manager for Bunge North America (White Plains, NY). “This demand has shown steady growth over the years. Bunge’s Whole Harvest Ancients brand adds such grains as quinoa, sorghum, and millet to masa products for wraps, tortillas, and taco shells, thereby conferring the cachet of ancient grains to more conventional food products. Garcia adds that these ancient-grain-enhanced products “can help customers meet growing demand for higher nutritional value, including higher fiber and protein, as well as their demand for gluten-free, non-GMO products.”

In the beverage space, which is a relatively new and interesting market for grains (more on this ahead), Andrew Wheeler at FutureCeuticals Inc. (Momence, IL) says that the company’s ancient grains are among the “major movers.” He adds that “organic and gluten-free have become almost a given expectation.”

At GoodMills Innovation (Hamburg, Germany), Svenja Frank, head of social business and communications, points to ancient grains’ “authenticity” and “naturalness, but with added functional benefits, such as improved intestinal health.” Ancient grains emmer and einkorn, she says, are currently experiencing increased demand at GoodMills Innovation from customers using them as ingredients in bread, rolls, cakes, and muesli. The company is also marketing its 2ab Wheat, which is an ancient grain “consisting only of the genomes A and B—which contain few fermentable oligo-, di-, and monosaccharides and polyols,” Franks adds. “It is free of the D-gluten found in modern wheat varieties that can be difficult to digest.”

She also points to GoodMills Innovation’s research into and work with ancient-grain variety tartary buckwheat, processed by the company into its RutinX ingredient. “This buckwheat variety is a prehistoric plant, rich in fiber and trace elements such as zinc and rutin,” Frank explains. “Rutin is a naturally occurring phytochemical. We succeeded in reducing the strong, bitter taste of rutin and now deliver it as a versatile ingredient for different application areas.”

Grains by the Glass

“Beverage-ready grains,” such as those offered by FutureCeuticals, are a nutritious, “clean label” way to improve taste and texture of functional beverages, says the company’s Wheeler. Stable across a range of applications and easily incorporated into protein and green drinks as well as dairy and dairy alternatives, he explains, beverage-ready grains work well for formulating into protein and green drinks as well as dairy and dairy alternatives. “The USDA-patented TRIM process we deploy takes the normally ‘gritty’ grains and transforms them into a hydrocolloid-like material that masks off notes and delivers a smooth and creamy mouthfeel to beverages,” without the need for artificial gums or fats and oils, Wheeler says.

Is Gluten a Dirty Word?

When asked how the gluten-free trend has affected FutureCeuticals’ grain-powder offerings, Wheeler replies frankly and bluntly: “We don’t sell much barley any more, if that tells a story on how gluten-free has become the expectation.” He elaborates, “BarleyTrim used to be a top global product for us five to seven years ago, but now we see ModCarb (a blend), QuinoaTrim, AncienTrim (ancient grains), and Nutrim (oats)—all organic and gluten-free—as our top products in the beverage-ready-grains space.”

GoodMills Innovation’s Frank speaks along similar lines. “The gluten-free trend definitely plays an important role in our innovative work,” she explains. “The issue of tolerability has formed part of our research for more than 20 years. The company offers its reduced-gluten 2ab Wheat in addition to gluten-free masa flours and YePea (a European, GMO-free alternative to soybean grist).”

“Nowadays,” Frank adds, “the hype has led to those who can tolerate wheat or rye well continuing to seek gluten-free alternatives anyway.”

“Making wheat cool again” is the edgy slogan Arcadia Biosciences is using to promote its to-be-launched GoodWheat Reduced-Gluten wheat-flour products. The company’s reduced-gluten wheat, developed through research funded in part by a grant from the National Institutes of Health’s Diabetes and Digestive and Kidney Disorders Institute, is the second product to be added to its recently announced GoodWheat-branded ingredients platform, along with its high-fiber resistant-starch wheat lines. The goal of the GoodWheat brand, according to Arcadia’s press materials, is “to add value to the entire wheat supply chain, from seed to table, by enabling a wider range of choices to meet evolving consumer demands”—less gluten being one of them.

Bunge’s Garcia cites research-firm Mintel’s placement of “gluten-free” third among consumers’ trending claims. “This demand has clearly affected all food segments,” she states, “and the grains market has not been an exception.”

Maureen Kingsley is a freelance writer, editor, and proofreader based in Los Angeles. She covers a variety of industries, including medical technology, food-ingredient manufacturing, and cinematography.
Astaxanthin has long been known for its clinically validated uses for eye health, skin health, joint and tendon support, and its benefits for athletes. But it does a whole lot more. In fact, there are over 100 human clinical trials showing that astaxanthin—and, specifically, natural astaxanthin—has ten distinct health benefits in humans.

Did you know that natural astaxanthin can enhance male fertility? Or that Washington State University did a series of trials showing that natural astaxanthin can modulate the immune system of several different mammal species, including humans? Or that there are nine different human studies showing that natural astaxanthin can support brain health? In this article, we take a brief look at these three lesser-known health benefits of natural astaxanthin.

**A brief look at three of the lesser-known health benefits of natural astaxanthin: immune health, brain health, and male fertility**

**By Bob Capelli and Lixin Ding, PhD, Algae Health Sciences/BGG North America**

**Astaxanthin**

**Immune System Modulator**

Washington State University Professors Boon Chew and Jean Soon Park performed a progressive series of studies on astaxanthin’s effects on immunity starting in the late 1990s. They were not the first academics to do research in this area, however. Harumi Jyonouchi, MD, of the University of Minnesota’s School of Medicine was the initiator of immunity research on astaxanthin. She published eight different studies starting in the 1980s—*in vitro* studies and in rodents—each demonstrating that natural astaxanthin can enhance the immune response.

Drs. Chew and Park picked up where Dr. Jyonouchi left off. They did a few mouse studies before moving on to a study in cats and another in dogs, both with very positive and similar results showing that astaxanthin increased several immune markers. The dog study went even further, finding that astaxanthin decreased DNA damage and also reduced C-reactive protein, the chief marker of systemic inflammation.

Then they moved to humans and did a landmark clinical study in young women. They randomly separated the women into three groups: 1) placebo, 2) 2 mg of astaxanthin per day, and 3) 8 mg of astaxanthin per day. The diverse results showed that, at both the 2-mg and 8-mg doses, natural astaxanthin:

- Increased the total number of antibody-producing B cells
- Amplified natural killer cell cytotoxic activity
- Increased the number of T cells
- Stimulated lymphocyte counts

**Increased the total number of antibody-producing B cells**

**Amplified natural killer cell cytotoxic activity**

**Increased the number of T cells**

**Stimulated lymphocyte counts**
and bring its antioxidant and anti-inflammatory protection to the brain. They showed that once astaxanthin reaches the brain, it can then cross the blood-retinal barrier and help protect the eyes as well.

In the interest of brevity, let’s look at some of the most important human clinical trials on brain health to understand natural astaxanthin’s protection of our bodies’ control center:

- In the first human brain-health study, astaxanthin at 12 mg/day over 12 weeks showed efficacy for age-related decline in cognitive and psychomotor functions in subjects with age-related forgetfulness.
- In another study on older subjects (who were also suffering from age-related forgetfulness), astaxanthin showed potential to improve cognitive function. The participants were asked to perform two cognitive tests after supplementing with placebo, 6 mg of astaxanthin/day, or 12 mg of astaxanthin/day. Improvements were found in both treatment groups, with the 12 mg/day group showing better results.
- There have been a few different studies showing that astaxanthin can help people prevent neurodegeneration as they get older. But how does this occur? There is a substance that accumulates in the erythrocytes of dementia patients called phospholipid hydroperoxide (PLOOH). In a randomized, double-blind, placebo-controlled study on older adults, Japanese researchers found that natural astaxanthin reduced PLOOH levels and increased antioxidant activity in erythrocytes at both dosage levels tested (6 mg/day and 12 mg/day). They concluded that astaxanthin supplementation may contribute to the prevention of dementia.
- A new benefit for brain health emerged in a study published this year. (Disclosure: This study was sponsored by our company, Algae Health Sciences/BGG.) Healthy individuals who were exercising were given either placebo or 12 mg/day of natural astaxanthin. After eight weeks of supplementation, significant improvement in psychological state was found in the astaxanthin group. Results included reduction in feelings of depression by 57%, decrease in mental fatigue by 36%, and improvement in overall mood state by 11%. (A patent is pending for this novel finding.)

**Male Fertility Enhancer**

Infertility is an increasing occurrence among couples worldwide, and in approximately half the cases, the cause is poor semen quality or performance. Due to changes in our environment, food consumption, and lifestyle, sperm just aren’t swimming as well as they used to. Fortunately, research in a few different mammal species (including humans) shows that supplementing with natural astaxanthin may help. Research in this area started back in the 1990s, and a patent (now expired) was taken out on the use of astaxanthin to improve breeding in mammals.

A landmark study was done in couples who had been trying to conceive unsuccessfully for over 12 months and where the male had been diagnosed with poor semen quality. The men were randomized into two groups: a placebo group and a group taking 16 mg/day of astaxanthin. There were no significant differences between the two groups in any fertility-related parameters. This study lasted for three months. At the end of the study, some major differences were found between the placebo and treatment groups:

- Sperm linear velocity increased in the astaxanthin group
- Reactive oxygen species decreased in the astaxanthin group
- 10.5% of the placebo couples got pregnant
- 54.5% of the astaxanthin-treated couples got pregnant

In simple terms, astaxanthin appears to have made the men’s sperm swim faster. This is most likely due to astaxanthin’s ability to eliminate a lot of the oxidation that occurs in sperm. This is a fantastic result, considering that the average time that the couples were trying to conceive was 20 months, yet in this three-month study, over half of the treatment couples got pregnant. The researchers theorized that this quick result could mean that astaxanthin helps improve the functional capacity of the sperm, as compared to changing the sperm themselves. Another study showing similar results had been published previously. This study concluded that astaxanthin helped improve the quality of sperm.

A recent clinical trial was done by a group of researchers sponsored by the government of Italy. Unlike the previous two human studies, this study was done on men with no fertility issues. Their fertility was evaluated using a “spermiogram” (a series of biochemical, physical, and morphological tests on a man’s semen, including on sperm count, motility, morphology, volume, fructose level, and pH).

The analysis of the subjects in this study determined that their sperm fell into the normal range on all parameters tested. In addition, the men all had at least one child and were within a normal age group for new fathers (24 to 37 years). Results for the treatment group showed a net increase in different motility parameters and sperm functioning, leading to the conclusion: “Astaxanthin,
by ameliorating the patient group’s sperm functioning, may be utilized to decrease male idiopathic infertility. Thus, we see that astaxanthin can help improve the functionality and motility of sperm in both fertile and infertile men.

Astaxanthin across the Health Spectrum

Most people in the dietary supplement industry are already familiar with astaxanthin’s benefits for eyes, joints, skin, and for athletes. But a review of the literature shows that it does a lot more. It can help protect our brains as we age and may also be effective for reducing depression and mental fatigue. It’s been shown to improve immune markers in many different mammal species, including humans. And one of its most unique benefits is that it can improve male fertility. More research in these areas is needed, but already, it’s remarkable how many ways this one molecule may be capable of keeping us healthy and happy.

Bob Capelli is executive vice president, global marketing, Algae Health Sciences (Irvine, CA), a subsidiary of BGG North America (Irvine, CA). Reach him at bob@algaehealthsciences.com. Lixin Ding, PhD, is chief scientist for BGG North America. Reach him at lixin.ding@bggworld.com. Capelli and Ding are the authors of Natural Astaxanthin: The Supplement You Can Feel, a 300-page consumer-friendly book on astaxanthin available at no cost by e-mailing info@algaehealthsciences.com.

References

5. Grangaud R. “Research on Astaxanthin, a New Vitamin A Factor.” Doctoral Thesis at University of Lyon, France. (1951)

“It’s remarkable how many ways this one molecule may be capable of keeping us healthy and happy.”
Category Index

Contract Manufacturer/Private Labeler

ADH Health Products .............................................. 44
Alpha Packaging .................................................. 48
Ashland ................................................................. 52
Best Formulations .................................................. 58
CAPTEK Softgel International Inc. ......................... 72
Columbia Nutritional LLC ........................................ 69
GMP Laboratories of America Inc. ......................... 92
NP Nutra .............................................................. 126
Soft Gel Technologies Inc. ...................................... 148
Vesta Ingredients Inc. .............................................. 158

Equipment Suppliers

Elizabeth Companies, The .................................... 86
Xela Pack .............................................................. 162

Ingredient Suppliers

Acadian Seaplants ................................................. 42
AIDP Inc. .............................................................. 45
Applied Food Sciences Inc. ...................................... 50
Arista Industries Inc. ................................................ 51
Asiamerica Ingredients Inc. ....................................... 54
Batory Nutra .......................................................... 55
Bergstrom Nutrition ............................................... 56
BioCell Technology LLC .......................................... 62
Bioenergy Life Science Inc. ...................................... 64
Biova ................................................................. 66
Bolton & Co. .......................................................... 59
Cactus Botanics ...................................................... 68
California Natural Color .......................................... 70
Certified Nutraceuticals Inc. .................................... 74
Connoils LLC ......................................................... 78
DPL-US ................................................................. 83
Draco Natural Products ............................................ 82
DRT Purextract ........................................................ 80
Ecuadorian Rainforest LLC ..................................... 84
Evolva ................................................................. 87
Farbest Brands ....................................................... 90
FrieslandCampina Ingredients ............................... 88
Gnosis ................................................................. 91
Gold Coast Ingredients Inc. ..................................... 94
Grain Processing Corp. ............................................ 96
<table>
<thead>
<tr>
<th>Company Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Source Organics</td>
<td>98</td>
</tr>
<tr>
<td>Hilmar Ingredients</td>
<td>99</td>
</tr>
<tr>
<td>Indena</td>
<td>100</td>
</tr>
<tr>
<td>Jiaherb Inc.</td>
<td>102</td>
</tr>
<tr>
<td>Jost Chemical Co.</td>
<td>104</td>
</tr>
<tr>
<td>KEB Nutraceutical</td>
<td>106</td>
</tr>
<tr>
<td>Lallemand Health Solutions</td>
<td>108</td>
</tr>
<tr>
<td>Marinova Pty Ltd.</td>
<td>110</td>
</tr>
<tr>
<td>Metabolic Technologies Inc.</td>
<td>112</td>
</tr>
<tr>
<td>Mineral Logic LLC</td>
<td>114</td>
</tr>
<tr>
<td>Morre-Tec Industries Inc.</td>
<td>116</td>
</tr>
<tr>
<td>Nammex</td>
<td>117</td>
</tr>
<tr>
<td>Natreon Inc.</td>
<td>118</td>
</tr>
<tr>
<td>Natural Alternatives International</td>
<td>120</td>
</tr>
<tr>
<td>Natural Remedies</td>
<td>122</td>
</tr>
<tr>
<td>Nature4science Inc.</td>
<td>124</td>
</tr>
<tr>
<td>Nutralliance</td>
<td>130</td>
</tr>
<tr>
<td>Nutrition 21</td>
<td>132</td>
</tr>
<tr>
<td>Oregenetics Inc.</td>
<td>134</td>
</tr>
<tr>
<td>Overnight Labels Inc.</td>
<td>135</td>
</tr>
<tr>
<td>PAT Vitamins</td>
<td>136</td>
</tr>
<tr>
<td>Pharmore Ingredients Inc.</td>
<td>138</td>
</tr>
<tr>
<td>Rhema Health Products Ltd.</td>
<td>139</td>
</tr>
<tr>
<td>Rochem International Inc.</td>
<td>140</td>
</tr>
<tr>
<td>ROSS Mixers</td>
<td>76</td>
</tr>
<tr>
<td>Ruspak Contract Packaging Services</td>
<td>142</td>
</tr>
<tr>
<td>Sabinsa Corp.</td>
<td>144-145</td>
</tr>
<tr>
<td>SaltWorks Inc.</td>
<td>143</td>
</tr>
<tr>
<td>Specialty Enzymes &amp; Probiotics</td>
<td>150</td>
</tr>
<tr>
<td>Stryka Botanics</td>
<td>149</td>
</tr>
<tr>
<td>Sunland Nutrition Inc.</td>
<td>152</td>
</tr>
<tr>
<td>Suzanne's Specialties</td>
<td>154</td>
</tr>
<tr>
<td>TSI Health Sciences</td>
<td>156</td>
</tr>
<tr>
<td>Vidya Herbs Pvt. Ltd.</td>
<td>159</td>
</tr>
<tr>
<td>Wright Group, The</td>
<td>160</td>
</tr>
<tr>
<td>XSTO Solutions LLC</td>
<td>164</td>
</tr>
<tr>
<td>AIBMR</td>
<td>46</td>
</tr>
<tr>
<td>BIO-CAT</td>
<td>60</td>
</tr>
<tr>
<td>NSF International</td>
<td>128</td>
</tr>
</tbody>
</table>
Acadian Seaplants
Improving wellness through the science of seaweed

Scientific research confirms that 2.5 billion years of evolution have left us with thousands of species of marine plants which are bioactively complex, nutritionally dense, and highly beneficial and versatile for use within the nutraceutical, wellness, cosmetic, and food & beverage industries.

Acadian Seaplants was founded in 1981 and is the largest independent marine plant processing company in North America and a global leader in aquatic plant products for humans, animals, and agriculture.

New offerings include 3 recently approved National Health Product registrations for antioxidants: Acadian SeaPlus™ Asco, Acadian SeaPlus™ Fucus, and Acadian SeaPlus™ Laminaria —available in capsule format.

Acadian SeaPlus™ Wellness Ingredients meet or surpass rigorous international production quality, food safety, and sustainability standards.

- SQF Quality Code 8
- FSVP
- FSMA
- PCQI
- Organic & natural
- Halal & Kosher
- Non-GMO
- Vegetarian
- Gluten-free

Species available
- Ascophyllum nodosum
- Fucus vesiculosus
- Chondrus crispus
- Palmaria palmata
- Laminaria digitata
Marine plants provide an ocean of benefits and possibilities making them the perfect functional ingredient for your nutraceutical, food, cosmetic, spa and pharmaceutical products.

Seaweeds’ complex bioactives offer potent prebiotic, antioxidant, anti-inflammatory, anti-viral, neural protection, immune health benefits and gelling, stabilizing and clarifying properties not found in terrestrial plants.

We are your trusted source for a variety of wild and cultivated seaweeds and provide custom blending options.
ADH Health Products Inc.
Prime Source of Quality Vitamins and Supplements

Corporate Headquarters
ADH Health Products Inc.
215 N. Route 303
Congers, NY 10920

Tel: 845/268-0027
Fax: 845/268-2988
Web Site: www.adhhealth.com
E-mail: info@adhhealth.com

Key Personnel
Balu Advani,
President
Ashwin Advani,
Director
Navin Advani,
Director

Description:
ADH Health Products Inc. specializes in custom formulations and contract manufacturing of dietary supplements and nutritional products. ADH manufactures products using GMP standards and is registered with FDA. ADH’s facility is subject to regular quality audits by third-party organizations such as NSF International and has received NSF’s prestigious GMP certifications and participated in NSF’s Certified for Sport program. Private label clients can choose from a complete line that includes all-natural, hypoallergenic, kosher, and vegetarian supplements available in capsules, tablets (including timed-release and chewable), powders, and liquids.

Facilities:
ADH manufactures its products in a state-of-the-art, 75,000-sq-ft facility, complete with in-house QC and microbiology labs where rigid testing is conducted during every phase of manufacturing—from raw material to finished product.

Products & Services
In 30 years of operation, ADH has formulated well over 1000 products for customers. ADH develops formulations to best suit customer needs for short lead time, offering small-batch sizes for clients who are looking to optimize on-hand inventory. In addition to product design and development, ADH also has full in-house graphic capabilities and can help clients create label designs.

Find out why ADH Health Products has been a trusted source of quality supplements for three decades:

- Compliant with FDA and cGMP standards
- Offers a variety of delivery forms
- Distributes to more than 30 countries
- State-of-the-art facility

ADH offers the following turn-key solutions that can enhance your company’s success:

- Research & Development
- Product Development
- Regulatory
- Customer Service
- Packaging Solutions
- Fulfillment & Warehousing

ADH Health Products is your one-stop source that will exceed your contract manufacturing and private labeling needs.

Prime Source of Quality Vitamins, Minerals & Herbs

Tel. 845-268-0027
Fax 845-268-2988
www.adhhealth.com
AIDP Inc.

Discovering New Solutions for Healthy Body and Mind—Helping You Deliver Proven Health Benefits that Consumers Want

Company Overview

AIDP Inc. (Advanced Ingredients for Dietary Products) is a leader in functional ingredients with a focus on extensively researched products. We provide cutting-edge solutions that meet consumer demand for wellness and healthy aging. AIDP identifies trends early, provides unique solutions, and works with customers to formulate end-products with strong market potential. Our commitment is to source high-quality ingredients and provide proprietary solutions that address formulation challenges.

AIDP is proud to be the exclusive supplier of Magtein® for cognitive health and KoACT® for bone strength. AIDP has an extensive prebiotic portfolio that includes PreticX®, Livaux®, Actazin®, and BeautyOLIGO™ for digestive health. AIDP is the exclusive North American supplier for Natural Remedies, which supplies Turmacin®, BacoMind®, GutGard®, and much more. As consumers continue to increase consumption of plant-based products, AIDP offers an extensive portfolio of plant-based proteins, vegan VegD3®, and seaweed-based alginites from Algaia. AIDP’s success is grounded in our depth of experience and commitment to strong science for functional food, nutritional, and beverage product development.

Corporate Headquarters
AIDP Inc.
19535 E. Walnut Dr. S.
City of Industry, CA 91748

Toll-Free: 866/262-6699
Tel: 626/964-6910
Fax: 626/964-6739
Web Site: www.aidp.com
E-mail: customercare@aidp.com

Key Personnel
Edward Lee, PhD, CEO
Mark Thurston, President

Success begins with your trusted source

Our Partners:

Success depends on your team. AIDP partners with companies who go the extra mile to provide cutting edge, science-based ingredient that meet consumer needs.

W: www.aidp.com  T: 866-262-6699  E: customercare@aidp.com
AIBMR Life Sciences
We Don’t Make Natural Products. We Make Them Better.

Description
AIBMR is the industry leader in natural products research and consulting, with a mission to put the science behind natural products. Featuring a team of PhD research scientists and naturopathic physicians, AIBMR can assist your company with:

- GRAS (Generally Recognized as Safe) Independent Conclusions (formerly Self determinations)
- FDA GRAS Notifications
- FDA NDI (New Dietary Ingredient) Notifications
- Toxicological Safety Studies
- FTC & FDA Regulatory Compliance

AIBMR also provides a host of other services to investigate the safety, efficacy, and mechanism of action of ingredients intended to be sold as dietary supplements or for the addition to functional foods or beverages in the United States.

Staying abreast of the ever-changing regulations surrounding the dietary supplement and functional foods industries is key to your success in the marketplace. AIBMR provides expertise in U.S. regulatory compliance, structure-function claims generation, product label reviews, and much more. Our clientele is worldwide and include start-ups as well as Fortune 500 companies. Services are tailored to the individual needs of each client.

We invite you to tap into our natural resources to ensure that your products are safe and effective—and help you succeed in today’s highly competitive marketplace. Please visit our website and give us a call to learn more.

Corporate Headquarters
AIBMR Life Sciences, Inc.
2800 East Madison Street, Suite 202
Seattle, WA 98112
Tel: 253/286-2888
Web Site: www.aibmr.com
Web Site: www.toxicoop.com
E-mail: info@aibmr.com

Key Personnel
Alexander Schauss, PhD, FACN, CFS
Senior Director

John Endres, ND,
Chief Scientific Officer
We don’t make natural products. We make them better.

At AIBMR, we do more than help ensure the safety and efficacy of your products. We also help you get them to market quickly and cost-effectively. Through our exclusive relationship with GLP-certified Toxi-Coop Toxicological Research Center, we can save you thousands on FDA, OECD, and EU/EC compliant toxicological studies while delivering faster lab results. Our 40+ year history, and unmatched expertise with nutraceuticals, functional foods and beverages, translates into savings and expeditious service. Partner with the company who can save you time, trouble and expense.

Tap into our natural resources. www.aibmr.com www.toxicoop.com 253.286.2888

Follow us on Twitter @AIBMRinc
Alpha Packaging

Company Description:
Alpha Packaging is a leading manufacturer of high-density polyethylene (HDPE), polyethylene terephthalate (PET) and polypropylene (PP) bottles and jars for the nutritional supplement, pharmaceutical, personal care, animal health, consumer chemical, cannabidiol and niche food and beverage industries. Sizes range from 1 ounce to 2 gallons, and include styles ideal for tablets and capsules; powders and granules; and liquids and lotions. Alpha has eight bottle facilities and one contract decorating facility in strategic locations across North America, as well as a manufacturing plant in The Netherlands. Free samples of stock items are available at www.alphap.com.

Alpha is known as the leading manufacturer of wide mouth PET bottles for the rapidly-growing “gummy” sector. We have a full range of bottle and jar sizes in our stock portfolio, and can also build a custom jar, packer, oblong or cylinder for a minimal investment.

In addition to our regional stocking programs that allow customers to get stock products very quickly, Alpha has an in-house design and engineering team that creates custom packaging solutions for all the industries we serve. We have an extensive library of preforms we can use to quickly and cost-effectively develop a custom mold – or we can apply our expertise to a completely new development project that brings your ideas to life. Alpha offers in-house tool-making capabilities, and can build everything from unit cavity molds to complete high cavity production tooling.

Alpha works with customers to develop sustainable packaging solutions, including bottles and jars with 100% FDA-approved post-consumer resin (PCR), select bioresins, and source-reduced options for the nutritional market. We are happy to come speak to brand owners about the best options for their particular product lines, or they can come to our Innovation Center to see real-life examples of the many sustainable solutions we offer.

**Major Markets**
- Nutritional Supplements
- Pharmaceutical
- Personal Care
- Niche Food & Beverage
- Consumer Chemicals

**Major Products:**
- 900 stock bottles and jars.
- Custom styles in HDPE, PET, PLA and PP.
- Custom-colored PET packaging.
- High-quality container decorating on a variety of substrates.
Packaging with Purpose

We’re pioneering the future of packaging. By asking the right questions, we guide you through the many types of sustainable solutions available. Then we work with you to find the right plastic packaging that preserves the planet.

Green packaging has the green light at Alpha.

100% recycled content | Recyclable | Bioresins | Source-reduction
Call us at 800.421.4772 or visit sustainability.alphap.com.
Applied Food Sciences (AFS)
Innovative, Functional Ingredients

Description
Applied Food Sciences (AFS) is the leader in innovation for functional, organic ingredients in the natural products industry. Quality is transparent, from seed to label through organic farming, ethical sourcing, and sustainability. AFS cares about every stakeholder, from rural farmers to the largest companies in the world.

Founded in 2001, AFS has built their expertise in ethically and sustainably sourcing botanical ingredients and manufacturing ingredients with scalability in mind. AFS has developed a multistep approach to guarantee the highest-quality ingredients. The quality process incorporates both USP- and AOAC-validated methods, for specific compound identification, as well as isotope testing to ensure that there is no synthetic adulteration.

PurCaf is pure organic caffeine from sustainably sourced green coffee beans.

sales@appliedfoods.com
appliedfoods.com/caffeine
Arista Industries

The company also recently restructured its sales force and customer service department in order to maintain the high level of personal and professional service that is guaranteed. Arista customers know that each of their inquiries will be handled to their satisfaction. Offering quick responses to technical questions, prompt order processing, and accurate lead times is simply the way we do business.

**Corporate Headquarters**
Arista Industries
557 Danbury Rd.
Wilton, CT 06897
Toll Free: 800/255-6457
Tel: 203/761-1009
Fax: 203/761-4980
E-mail: info@aristaindustries.com
Web Site: www.aristaindustries.com

**Locations of Other Offices and Facilities**
Long Beach, CA
562/438-8887

**Key Personnel**
Mary Ann Siciliano
National Sales Manager
Blake Hillyer
East Coast Sales Manager
Justin Hillyer
Regional & International Sales Manager
Marlene Wright
West Coast Sales Manager

**Description**
With over 85 years of experience, Arista Industries has evolved into a top global supplier of specialty marine oils, natural vegetable oils, essential oils, butters, and powder-form oils. These ingredients are used in food, pharmaceutical, nutraceutical, and nutritional supplements, as well as cosmetic and personal care applications.

Arista started bringing in cod liver oil and vitamin A and D fish oils from Norway, and shortly thereafter became a highly regarded supplier of natural vegetable oils. Arista was one of the first suppliers of omega-3 fish oils in the early 1980s and has continued to offer top-quality marine oils.
At Ashland, we are passionate, tenacious solvers who thrive on developing practical, innovative, and elegant solutions to complex problems, always pushing the boundaries of what’s possible, to advance the competitiveness of our customers. No one knows more or cares more about how to transform the efficacy, usability, allure, integrity, and profitability of nutraceutical products and applications, and we have a variety of health and wellness ingredient and custom processing options that meet the needs of today’s health-conscious consumers.

**product solutions**

We bring a broad range of specialty solutions to everyday health and wellness products. Whether you are looking to reduce dusting, meet a label content claim, or reduce your tablet size, we have a solution. Our capabilities include proprietary ingredients, custom formulation, and particle engineering. We are always solving™ ingredient challenges to meet exacting specifications.

**GPM vitamins and minerals**
slow, sustained release—gentle on the stomach*; Organic, non-GMO, soy-free, and gluten-free options available
*versus comparable USP nutrients

**probiotic strains**
more than 40 unique strains for dietary supplements to support various health benefits

**sports nutrition**
Acti-solve™ BCAAs for excellent dispersibility and soluble MCT powders in a range of oil loads

**general health and microbiome support**
sustainably sourced Aloe vera, probiotics, Berry-Max™ berry concentrates (bilberry and elderberry)

**support for joint health**
Celadrin* esterified fatty acid complex, Perluxan™ extract, Glucosamine chondroitin

**urinary tract health**
Cran-Max™ cranberry concentrate

**weight management**
Phase 2™ carb controller, Prenulin™ blend with Chromax™, MCT powders, and the following value-added products: green tea extract, apple cider vinegar, caffeine anhydrous USP, alpha-lipoic acid 70% (encapsulated), amino acids, citrus bioflavonoid complex

**custom solutions and particle engineering**
Our team of solvers can help you with your next new product project from start to finish—from concept development to prototyping and product trials and commercial-scale production. We know our way around a particle. Let us help you with custom blending, spray drying, micronizing, granulating, and standardizing.

Connect with our solvers to learn more: ashland.com/profile
who knows their way around a particle? — we do.

Blending. Agglomerating. Spray drying. Chilsonating. Instantizing. Granulating, and more. Ashland has a breadth of processing and formulation capabilities to solve your toughest product development challenges. With more than 35 years of expertise, we also offer:

- custom formulation
- DTH (drum-to-hopper)
- packaging of custom food and beverage powders
- premix and fortification
- custom processing of USP and value-added vitamins and minerals
- raw material sourcing

ashland.com/processing
Asiamerica Group Inc. We are a global premium ingredients supplier geared towards enhancing human health and nutrition around the world, serving the nutritional supplements, food, pharmaceutical, beverage, cosmetic, pet food and personal care industries since 1993.

Over the years, Asiamerica has grown to become a leading supplier of Vitamins, Nutraceuticals, Amino Acids, Mineral Nutrients, Botanicals, Herbs, Extracts, Sports Nutrition Ingredients, Pharmaceuticals, Excipients, and Food Additives.

Our strong, long-term partnerships with our international suppliers enable us to deliver consistent, high-quality, highly competitive priced ingredients along with our exceptional service, expert information and on-time availability.

- Halal Certified
- Kosher Certified
- Non GMO
- ETO Free
- Non Irradiated Products

Asiamerica Ingredients, Inc. is a global premium ingredients supplier geared towards enhancing human health and nutrition around the world, serving the nutritional supplements, food, pharmaceutical, beverage, cosmetic, pet food and personal care industries since 1993.

See a detailed list of our product at:

www.asiamericaingredients.com
Batory Nutra

Batory Nutra is a dedicated division of Batory Foods providing an enhanced focus on fulfilling the needs of our dietary supplement customers. Our focus on customer needs begins with a strong platform of vendor relationships. These relationships allow us to stand behind a high level of quality and reliability when supplying ingredients to customers through our distribution services.

At Batory Nutra we offer a powerful mix of the highest quality protein products and industry knowledge to make your formulation a success. Whether you’re looking for a single protein ingredient or a full complement of plant or animal based proteins, you’ve come to the right place.

For more information, or to order a sample today, visit batorynutra.com or call 800.451.9067

Animal Based • Plant Based • Dairy Based • Egg Based
For more than 30 years, Bergstrom Nutrition has set the standard for MSM (methylsulfonylmethane) in dietary supplements, for joint health, skin care, sports nutrition, and more.

Bergstrom Nutrition pioneered the use of MSM for animal and human health use and remains an industry innovator and the world’s leading manufacturer of MSM. Bergstrom’s flagship product, OptiMSM® is the premium branded form of MSM supported by safety data and published clinical research. OptiMSM is recognized as the purest and only GRAS-designated MSM available.

OptiMSM® is manufactured exclusively in the USA at Bergstrom Nutrition’s single-purpose, cGMP-compliant, ISO-registered facility to provide essential traceability. Bergstrom uses a proprietary, multi-stage distillation process to create OptiMSM®, and every batch is third-party tested for optimal purity, quality, and consistency. The result is an MSM that is the same as that found in nature.

Trusted by manufacturers and consumers alike, OptiMSM has earned the reputation as the purest, safest, most consistent quality MSM in the world.

OptiMSM is Kosher and Halal certified, GRAS-designated, vegan, non-shellfish-derived, gluten-free, non-GMO and allergen-free.

The Bergstrom Nutrition team has over 100 years of combined experience in the manufacturing and uses of MSM. Bergstrom is committed to exceptional customer service and helping its customers succeed by producing OptiMSM – the world’s most trusted MSM.

Bergstrom Nutrition continually drives research to discover new applications for MSM to benefit its partners, customers, and the health of all. Current studies build on MSM’s recognized joint support benefits to extend to Beauty from Within, Skin Care, Exercise Recovery, Sports Nutrition, Immune support and benefits for Healthy Aging.

We don’t compromise on MSM, and neither should you. Look for OptiMSM.
WE DON’T COMPROMISE ON MSM NEITHER SHOULD YOU.

For 30 years, OptiMSM® has set the quality standard for MSM in Dietary Supplements. Research on OptiMSM indicates multiple benefits for supporting healthy and active lifestyles.

HAIR, SKIN & NAILS:
- Reduces fine lines and wrinkles*
- Enhances nail growth, look and condition*
- Improves hair shine, volume and appearance*

JOINT:
- Improves function and mobility*
- Reduces pain and stiffness*
- Increases range of motion*

AGING:
- Supports a healthy inflammation response after exercise.*
- Provides metabolism-supporting sulfur*
- Anti-oxidant properties protect the skin and tissue*

IMMUNITY:
- Sustains glutathione levels*
- Modulates a healthy immune response*
- Blunts exercise-induced immunosuppression*

MUSCLE:
- Reduces DOMS and speeds recovery*
- Protects muscle from damage without blunting adaptation*
- Adaptively increases GSH and SOD*

FOR ADDITIONAL INFORMATION ON OPTIMSM®
- info@optimsm.com
- www.optimsm.com
- 888-733-5676

* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease. ©2019 Bergstrom Nutrition
**Best Formulations**  
Quality Pharmaceutical and Nutraceutical Manufacturer

**Corporate Headquarters**  
Best Formulations  
17758 Rowland St.  
City of Industry, CA 91748

Tel: 626/912-9998  
Fax: 626/912-8881

Web Site: www.bestformulations.com  
E-mail: sales@bestformulations.com

**Key Personnel**  
Eugene Ung  
CEO

Robin Koon  
Executive Vice President

**Description**  
Best Formulations is a leading contract manufacturer of prescription, OTC, vitamin, and nutraceutical products. We are an FDA-licensed drug manufacturer and are cGMP-certified by both the NPA and NSF. Our mission statement conveys the importance of quality and our customers:

“To develop and maintain mutually beneficial relationships with our employees, customers, and partners by providing the highest-quality products and the Best customer service.”

**Facilities**  
Our state-of-the-art, 225,000 sq ft manufacturing facility and full in-house laboratory allow us to schedule flexible production runs to get your products to market faster, without sacrificing quality.

**Statistics**  
Founded in 1984, Best Formulations currently employs a team of over 350 trained chemists, formulators, machine operators, engineers, quality-control lab personnel, and support staff. We are highly committed to having the highest quality and best customer service in the industry.

**Products and Services**  
Best Formulations manufactures all products in house to keep a close eye on quality and maintain competitive prices. We’re also on the forefront of developing cutting-edge nutraceutical products, including V-Gel™, the first truly viable, non-animal–based soft gel–encapsulation technology.
Bolton & Company
Partner with the Leading Insurance Broker for the Dietary Supplement Industry.

Corporate Headquarters
Bolton & Company
3475 E. Foothill Blvd., Suite 100
Pasadena, CA 91107, USA

Toll-Free Number: 800/439-9337
Tel: 626/535-1459
Fax: 626/405-2066
Web Site: www.Boltonco.com
E-mail: cmorey@boltonco.com

Local and Global Representation
Nationwide service capabilities

Key Personnel
Chris Morey,
Associate Vice President
Supplement Practice Group

Description
If your business focus is nutraceuticals, sport nutrition, CBD-infused products or a similar specialty in the supplement space, Bolton & Company’s Supplement Business insurance specialists can help protect your company against the industry-specific risk and unique exposures you face.

Our specialists know your industry, its risks and what insurance and coverage you need to keep protected and stay in business.

• Bolton services more than active 300 clients in the supplements industry
• More than 15 years of combined experience focused on this ever-evolving industry
• Bolton has direct access to insurance coverage that’s built specifically for this industry

Bolton is a California-based, employee-owned insurance brokerage serving the needs of thousands of clients across the country, placing more than $600 million in annual premiums on behalf of its clients.

Learn more by visiting https://boltonco.com/industries/dietary-supplements/

Don’t Let Bad Coverage Kill Your Supplement Business

Whether it’s supplement production, manufacturing, distribution or retail, the wrong insurance policy could cost your company millions.

And with the increasing popularity of CBD-infused products, legal and regulatory challenges are growing even more complex.

Chris Morey
Supplement Business Insurance Specialist

With access to the nation’s top insurance carriers, Bolton’s Supplement Business Insurance Specialists will help you design the most appropriate insurance plan for your business.

Visit https://boltonco.com/industries/dietary-supplements/ or call (626) 535-1459 to start the process.
**BIO-CAT and BIO-CAT Microbials**

Catalyzing Biotech Solutions

---

**About**

BIO-CAT and BIO-CAT Microbials are the industry leaders in enzymes, microbials and custom formulations for nutritional food processing, animal nutrition and agriculture. We are an FSSC 22000 certified enzyme facility in Virginia and a GMP certified facility manufacturing microbials in Minnesota. With 30 years in business, we provide customized solutions for your product ideas. We are best in class in research & development, regulatory, quality assurance and product development in our state-of-the-art facilities.

**Product Applications**

- Dietary Supplements
- Food, Beverage & Ingredients
- Animal Nutrition
- Agriculture
- Aquaculture
- Cleaning
- Bioremediation

**Technologies**

BIO-CAT has an established application based R&D group for enzymes and *Bacillus* technology. With over 30 years’ experience in enzymes and 15 years in *Bacillus*, you can count on BIO-CAT for your customized solutions. With patents covering a range of applications from food probiotics to bioremediation our technology, history, and customer service can help you find solutions to your challenging problems.

- Single to multi-enzyme blends; *Bacillus* manufacturing, formulating and blending
- Custom blending & formulations
- Large capacity blending
- In-house R&D and QC lab
  - Research & Development (R&D) team provides custom solutions in our applications lab for scientific research and product development
  - Quality Control (QC) lab conducts testing assuring strict quality standards are met and testing to ensure the potency and overall quality
- Powder and liquid packaging
- Climate controlled storage and warehouse

**Manufacturing Standards**

- BIO-CAT- FSSC 22000 certified company
- BIO-CAT Microbials- GMP certified
- Kosher and Halal Certified
- Multiple Patents

---

**Corporate Headquarters**

BIO-CAT and BIO-CAT Microbials
9117 Three Notch Rd.
Troy, VA 22974

Toll-Free: 877/912-4622
Tel: 434/589-4777
Fax: 434/591-4507
Web Site: www.bio-cat.com
E-mail: info@bio-cat.com

**Key Personnel**

- Mark Walin
  - VP of Sales & Marketing
- Charlie Pettygrove
  - Sales Manager
- Marc Jensen
  - Technical Marketing Manager
The Most Important International Relationship in Enzyme History

TOP 10 STRONGEST COUNTRY BRAND INDEX*

1. Japan
2. Switzerland
3. Germany
4. Sweden
5. Canada
6. Norway
7. United States
8. Australia
9. Denmark
10. Austria

BIO-CAT Celebrates 30 Years of Industry Leadership

#1 D.S. Enzyme Supplier
#1 Curated Portfolio
#1 Custom Formulators
#1 Custom Blenders
#1 Full Solution Partner

Catalyzing Biotech Solutions™ for 30 Years

Exclusive Distributor of

Contact us to learn more 866.407.9529 | www.bio-cat.com
BioCell Technology LLC
Long-Term Solutions for Life™

BioCell Technology is a research, product development, branding, and marketing company that manufactures innovative, science-based ingredients that have applications in dietary supplements, functional foods, and cosmetics.

BioCell Collagen® is a clinically tested branded dietary ingredient that promotes active joints, youthful-looking skin, and healthy connective tissues. BioCell Collagen® contains a patented composition of naturally occurring hydrolyzed collagen type II peptides, chondroitin sulfate, and hyaluronic acid in a highly absorbable matrix form that has been the subject of numerous human clinical trials, including trials on safety, efficacy, and bioavailability.

BioCell Collagen® is self-affirmed GRAS (Generally Recognized as Safe). BioCell Collagen® is non-GMO and free of gluten, soy, shellfish, fish, egg, milk, peanuts, and sugar. BioCell Collagen® is made exclusively in the USA and Germany.

BioCell Collagen® is clinically shown to:
• Promote joint comfort & mobility*
• Enhance post-exercise recovery*
• Support skin & joint collagens (type I, II & III)*
• Reduce wrinkles & fine lines*
• Reduce skin dryness*
• Increase skin collagen*

i-Sabi™ is a natural dietary supplement made from the rhizomes of pure Wasabia japonica. It provides a full spectrum of phytochemicals called isothiocyanates (ITCs) that support your immune system, detoxify and maintain healthy liver function, and provide strong antioxidant activity for cellular health.

i-Sabi™ is laboratory tested and has been shown to exhibit the following properties:
• Supports Liver Health and Detoxification
• Supports Healthy Immune Function
• Supports Cellular Health
• Potent Antioxidant Support

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Corporate Headquarters
BioCell Technology LLC
20 Truman St., Ste. 105
Irvine, CA 92620
Tel: 714/632-1231
Fax: 714/632-5866
Web Site: www.biocelltechnology.com

Locations of Other Offices and Facilities
Seestermuhe, Germany
Tel: + 49 (0) 4125/9579993

Key Personnel
Suhail Ishaq,
President
Douglas Jones,
Global Sales and Marketing Manager
NOT ALL COLLAGENS ARE ALIKE

BioCell Collagen® is clinically shown to:
- Promote joint comfort & mobility
- Enhance post-exercise recovery
- Support skin & joint collagens (type I, II & III)
- Reduce wrinkles & fine lines
- Reduce skin dryness
- Increase skin collagen

UNIQUE SYNERGISTIC INGREDIENT

Hydrolyzed Collagen II
Matrix
Hyaluronic Acid
Chondroitin Sulfate

Healthy Joints

Beautiful Skin

www.biocelltechnology.com

To Learn more about the Science behind the Ingredient, please call 714.632.1231 for Sales

* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Bioenergy Life Science Inc.
Branded Functional Ingredients for Healthier Living

Company Profile
It is our mission to create branded, innovative ingredients for healthier living. Our scientific based, all-natural ingredients help people feel, perform, and look better. Our clinically-proven ingredients support healthy aging, sustainable energy, heart health, mitochondria health, weight management and many other health-enhancing benefits. We sell in bulk to companies who manufacture functional foods & beverages, supplements, sports nutrition, cosmetics & animal nutrition products.

Products
Bioenergy Ribose® is a unique 5-carbon carbohydrate that stimulates the body’s natural energy production. It is the backbone of our ATP structure (Adenosine Tri-Phosphate), the source of all cellular energy. Ribose is naturally present in every living cell in the body but the process of making Ribose is very slow, making it hard for your body to build up any energy stores. Therefore, supplementing with Bioenergy Ribose can help increase those pools of energy and provide a more natural, overall energy. Bioenergy Ribose is the only patented, branded form of Ribose on the market. It is GRAS certified, non GMO Project Verified, Kosher, Halal and allergen free.

RiaGev™ is the first and only commercially available proprietary compound uniquely combining Bioenergy Ribose® and a form of Vitamin B3. It is distinctly formulated to enter the salvage pathway directly to more efficiently increase nicotinamide adenine dinucleotide (NAD) in the body.

RiaGev maintains and enhances mitochondrial health by boosting NAD levels and inducing the creation of new mitochondria. Increased NAD and healthy mitochondria help slow the aging process, reduce age-related cognitive decline, prevent cellular damage from free radicals, and create a stronger immune system.

Benefits of Our Branded Ingredients
Bioenergy Ribose and RiaGev work at the cellular level creating benefits that help people feel, perform, and look better.

Our ingredients:
• Promote mitochondrial health;
• Increase sustainable energy in heart and muscle tissues;
• Support healthy aging;
• Slow cellular aging;
• Improve athletic performance;
• Increase muscle endurance;
• Stimulate healthy cellular metabolism;
• Support cardiovascular health;
• Lower cholesterol;
• Foster weight management;
• Promote healthier skin;
• Serve as an anti-inflammatory;
• Reduce age-related cognitive decline; and
• Promote DNA repair and recovery during a health crisis.
Ingredients for Healthier Living™

Our mission is to create innovative, scientifically based ingredients that help people **feel, perform and look better**.

We do this by developing ingredients that have clinically proven health benefits and fit into a wide range of applications. Our patented ingredients support sustainable energy, healthy aging, cardiovascular health, performance enhancement, mitochondrial health and much more. Applications include dietary supplements, sports nutrition, functional food and beverages, cosmeceuticals and animal nutrition.

Contact us to learn how you can enhance your new and existing products with our branded, functional ingredients.

info@bioenerglsls.com | www.bioenergylifescience.com | 877.474.2673

©2019 Bioenergy Life Science, Inc. All rights reserved.
Biova provides water-soluble eggshell membrane (WSEM) ingredients to the dietary supplement, skin care and pet care industries. Eggshell membrane is a unique ingredient that provides many of the fundamental building blocks for skin and joint health. Naturally occurring compounds include collagen, elastin, glycosaminoglycans, hyaluronic acid, protein and a variety of amino acids. These compounds work together to support healthy joints, and healthy skin.

Our patented manufacturing process produces water-soluble ingredients, which mean expanded delivery options for formulators. Biova’s ingredients can be incorporated into traditional tablets and capsules as well as gummies, chews, beverages, stick packs, chocolates, bars, powders, etc.

We work with some of the largest egg production facilities in the US. As a by-product of the food industry, Biova’s commitment to sustainability helps to keep over 2 billion eggshells from landfills per year. Through the removal of the membrane, the remaining eggshell is then easier to process into calcium supplementation for feed and fertilizer.

Biova’s patented ingredients offer proven health benefits: BiovaFlex® supports joint health in humans; BiovaDerm® is used as a topical ingredient for youthful looking skin; BiovaBIO™ (Beauty-Inside-Out) supports skin health through nutritional support; and BiovaPlex® provides healthy joint and coat support for companion animals.

Years of dedicated investment, ongoing scientific research and leading-edge technology are at the core of these all-natural, ultra-pure, nutrient-rich ingredients.
The Clear Choice... for Water-Soluble Eggshell Membrane

biovaflex.
Joint Support for Humans

biovaplex.
Joint Support for Pets

biovaderm.
Topical Skin Care

biovabio.
Beauty-Inside-Out

GRAS | NDI | Health Canada Approved | EU Novel Foods  
Kosher | Halal | 100% US Made

www.Biova.com
Info@Biova.com
Cactus Botanics CA Inc.

Raw Materials for the Health Industry

Description
As a botanical extract expert, Cactus Botanics has cultivated a global reputation supplying superior-quality ingredients. The company is U.S. FDA registered, passed U.S. FDA audit, and is ISO 9001:2008, organic certified (EU Regulation 834/2007 and NOP USDA), and kosher and halal certified. All of its operations are NPA GMP-certified. Its raw materials are clinically proven to support human health.

Services
Product quality is ensured by both in-house labs and reputable third-party labs. The firm’s warehouses, both in the western and eastern United States, provide U.S. customers with added convenience.

Products
Cactus Botanics’ key products are:

The Materials from Marine:
- Fucosea®
- Fucoidan Powder (Algae Source)
- Omega-3 Powder (Algae Source)
- Astaxanthin (Haematococcus pluvialis)
- Spirulina Powder
- Chlorella Powder
- Shark Cartilage Powder

Joint Care Ingredients:
- Hyaluronic Acid
- Chondroitin Sulfate

Hot products in 2019:
- European Bilberry Extract
- Turmeric Extract Curcumin
- Ginseng Series Extract

Cactus Botanics also develops and markets various fruit juice powders, amino acids, vitamins, and biochemical products for dietary supplements and foods/beverages. Botanics confidently provides competitive strengths to our customers.

Clients Served
With proficiency in production and logistics, combined with industry expertise, Cactus Botanics confidently provides competitive strengths to our customers.

Please e-mail us at info@cactusbotanics.com for more information.

Corporate Headquarters
Cactus Botanics CA Inc.
18560 San Jose Ave.
City of Industry, CA 91748

Tel: 844/478-6744
Fax: 949/271-5639
Web Site: www.cactusbotanics.com
E-mail: info@cactusbotanics.com

Key Personnel
Carol Cheow,
President

Raw Materials Supplier
For Health Industry

- Your reliable partner for success with product Liability Insurance
- ISO 9001/Kosher, Halal Certified/FDA Registered/cGMP Compliance
- See us at Booth#4620 Oct 17-18 2019 Las Vegas USA
**Columbia Nutritional LLC**

Trusted Manufacturing Partner for Capsules, Tablets, and Powders

**Description**

Columbia Nutritional LLC ("CN"), based in Vancouver, Washington, with a second facility in Columbus, Ohio, combining 100,000 sq. ft. between the two sites, has rapidly grown due to the increased industry demand for high-quality contract manufacturing services for dietary supplements and nutritional health products. The company is managed by a highly experienced executive team with a strong track record of providing outsourced manufacturing, product development support, and related services to high-quality nutritional supplement brands. CN has helped formulate and manufacture over 4000 different products during its existence in a wide range of dietary supplement categories including multivitamins and minerals, herbal/ botanicals, probiotics, specialty functional formulations such as joint health and weight management products, as well as multiple sports nutrition products, including protein powders and electrolyte drink mixes. The Company specializes in powder-based delivery forms, capsules, tablets, and powder mixes, with full turnkey bottling and packaging capabilities to meet a customer’s complete packaged product requirements.

The Company provides a comprehensive suite of services, often serving as a key partner with its customers in a multifunctional approach that includes product development, manufacturing, supply, and regulatory compliance. Services include product concept and development, product engineering and formulation, ingredient sourcing and qualification, manufacturing, labeling, bottling and packaging, quality assurance, laboratory testing, and documentation support. Throughout its operations, CN provides an industry-leading level of product quality and consistency backed by sophisticated manufacturing protocols and technical support. Columbia is a member of NPA and has been GMP certified by UL as part of the NPA GMP Certification program.
California Natural Color
Nature’s True Colors

Company Description
California Natural Color manufactures colors from fruits, vegetables, and other natural sources for the food, beverage, and nutraceutical industries. With the support of a strong supply chain beginning in vineyards and fields combined with state-of-the-art technologies for processing and packaging, we can offer unique product solutions. These capabilities and an unwavering commitment to quality resulted in California Natural Color becoming the world’s largest supplier of red anthocyanin colors.

Since our start in 1994, we have expanded our portfolio to offer crystal colors. Our crystal colors come in a wide range of color intensities and shades and are made from blends of Rubired grape, black carrot, purple sweet potato, and other natural ingredients. They are dried into a crystalline form without the use of carriers. Crystal colors are completely and easily soluble with much less dust than spray dried colors. They have a shelf life of 5 years at ambient temperature.

California Natural Color is a division of E. & J. Gallo Winery and is located adjacent to the Fresno winery. The two facilities strive to be zero waste facilities and have been presented with various awards regarding sustainability. SJVC is a FSSC 22000 certified facility.

Corporate Headquarters
California Natural Color
5631 E. Olive Ave.
Fresno, California, 93727 USA

Toll-Free Number: 800/557-0220
Tel: 559/458-2500
Fax: 559/458-2564
Web Site: californianaturalcolor.com
E-mail: inquiries@californianaturalcolor.com

Key Personnel
Thomas Lampe,
Director of Business Development
Kai-Mei Loo,
Quality Manager
Alice Conley,
Customer Service Manager

Products
Crystal Colors:
• Pure Purple Grape
• Pure Red Grape
• Pure Purple Carrot
• True Magenta
• Pure Purple Sweet Potato
• True Pink
• True Blush
• Real Red BG NEW!!
• Real Red CF NEW!!
• True Rose
• Pure Red Carrot
• Pure Brown Grape NEW!!

Product Qualifications
• Unique Crystal Form
• High Color Concentration
• Carrier Free
• Enables Zero Calorie Label
• Superior Color Stability
• Halal
• SO₂ Free
• Non-GMO
• Organic Compliant
• Enables Clean Label
• OU Kosher
• 5 Year Shelf Life
• Fast Solubility
• Less Dust Than Spray Dried Colors
• Offers Supply Chain Savings

Major Markets
• Beverages
• Confections
• Nutraceuticals
Pure Color from Natural Sources

Our unique color crystals are the perfect solution for a multitude of food and beverage applications.

- Carrier-Free
- Solution for Global Distribution
- Zero Calories
- OU Kosher
- Halal
- SO₂ Free
- Crystal & Liquid Color
- Non-GMO
- Organic Compliant
- Fast Solubility

CONTACT US TODAY for more information or a sample
800.557.0220 • inquiries@californianaturalcolor.com
5631 E. Olive Ave., Fresno, CA 93727 • californianaturalcolor.com

California Natural Color is a division of the E. & J. Gallo Winery
CAPTEK Softgel International
Encapsulating Quality

About CAPTEK Softgel International
CAPTEK™ Softgel International Inc. is a privately-owned, FDA-registered and -audited, GMP-certified, full-service contract manufacturer of custom dietary supplement formulations. Championing wellness worldwide since 1996, the company’s focus is producing high-quality nutraceutical products, pharmaceutical-grade products, bulk stock, softgel capsules and supplements, 24/7, through innovative delivery systems, utilizing rigorous quality assurance and quality control standards. Led by an outstanding executive team, CAPTEK™ Softgel International Inc. serves our clients and our community and upholds industry certifications.

CAPTEK Softgel International Licensing and Certifications
To maintain superior-level products, we fully comply with FDA GMPs and have been certified by NSF International.

- NSF: GMP Registered Dietary Supplements
- USDA Organic
- U.S. Green Building Council Leed Certified
- IFANCA Certified
- USP Dietary Supplement Verified
- Marine Stewardship Council
- Non-GMO Project Verified
- Health Canada
- GOED Omega-3 Proud Member
- Halal Certification
- Kosher Certification

Additional Specialties
- Full Contract Manufacturing Capabilities
- Custom Formulation
- Product Research & Development
- Encapsulation
- Bottling
- Quality Operations
- Bulk Stock & Private Label
- Certifications

Corporate Headquarters
CAPTEK Softgel International
16218 Arthur St.
Cerritos, CA 90703

Toll-Free: 800/638-6883
Tel: 562/921-9511
Fax: 562/926-3796
Website: www.capteksoftgel.com
E-mail: sales@capteksoftgel.com

Locations of Other Offices and Facilities
2710 Progress St.
Vista, CA 92081
Tel: 866/630-4155

14535 Industry Circle
La Mirada, CA 90638
Tel: 866/630-0419

Key Personnel
Dave Wood,
CEO

Kevin Tully,
SVP, Sales and Marketing

Paul Hwang,
VP, Quality and Regulatory

Terry Jackson,
VP, Sales
ENCAPSULATING MORE³
Custom Manufacturing • NutraStock® • CAPTEK MarineGel™

CAPTEK Softgel International offers uncompromising manufacturing standards, extensive experience developing leading-edge products, and reliable customer service. And now we offer even MORE.

Custom Manufacturing
CAPTEK is a leader in innovation. Our unique understanding of capsule integrity and ingredient interaction is why we are the choice for many leading nutraceutical companies.

NutraStock®
NutraStock® quality bulk stock nutraceuticals with over 200 products available on-demand with fast delivery and competitive pricing.

CAPTEK MarineGel™
Ideal for vegetarians that want natural products to fit their healthy lifestyles, CAPTEK MarineGel™ base formula is free from animal derivatives, GMOs, sugar, gluten and preservatives.

To learn more about what a partnership with CAPTEK holds for you, go to capteksoftgel.com.
Certified Nutraceuticals Inc.
Healthy Living through Innovative Technology

Certified Nutraceuticals offers patented raw ingredients in bulk powder, finished products in bulk, capsules/tablets, and private-label, bioanalytical, research and development services.

Expert in anti-aging ingredients
Backed by three decades of research and development of nutritional supplements, Certified Nutraceuticals pioneered the original invention of three Collagen Type II patents (US Patent #8,344,106 B1) for dietary supplements and was the first to introduce Collagen Types I, II, and III food supplements to the health food market more than 25 years ago.

Certified Nutraceuticals is the ideal partner for companies that want success in the fast-growing anti-aging nutritional supplements sector. Certified Nutraceuticals’ expertise in nutritional anti-aging food supplements is based on long-term experience in dietary supplements processing and production, using state-of-the-art spray-dry, mixing, and filling plants. The Certified Nutraceuticals team comprises nutritionists, chemists, scientists, product development experts, experienced purchasers, and many partners from science, law, market analysis, packaging design, logistics, and other fields.

Services portfolio
- Raw materials procurement
- Product development
- Production development
- Manufacturing
- Package design
- Filling and packaging
- Distribution
- Logistics

Product Examples:

Anti-aging
- Telomere health support
- DNA/heart health protection Antioxidant
- Immune system and liver function

Health mobility
- Collagen Type II – complete joint health
- Collagen Types I, V, X – skin health/wound healing/connective tissues disorders
- Collagen Types I, II, V, X and Mucopolysaccharides – advanced collagen recovery compound
- Collagen Type II Pomegranate Liquid Concentrate/total body health
- Grapevine Liquid Concentrate/powerful antioxidant/promote heart health and immune system
- Natural Food Grade Hyaluronic Acid Sodium from Rooster Comb – Nature’s Most Perfect Synovial Fluid

Introducing The First New Food-Grade Edible Hydrolyzed Jellyfish Collagen:
- KollaJell™ Edible Hydrolyzed Coastal Jellyfish Collagen Powder
- Certified Nutraceuticals Inc. is proud to announce the issuance of U.S. Patent Number 10,287,339 B2 – (WW Pending) for its newest invention of invertebrate collagen protein bound to natural minerals.

Health Benefits of Jellyfish Collagen:
- Helps to Improve Memory and Brain Function
- Helps to Fight the Decline of Calcium Binding Proteins
- Reverses Photo Aging & Restores Skin Health
- Anti-Fatigue & Anti-Cell Oxidation
- Helps to Stimulate the Immune System & Neurological Activities
- Proprietary Technology Extraction and Purification

Beauty
- Marine Collagen from fish skin and jellyfish
- Pomegranate seed extract
- Olive leaf extract (25% Hydroxytyrosol), the most powerful Antioxidant discovered to date!
What are telomeres?
Telomeres are the protective ends of our chromosomes that support healthy cell replication. Telomeres play a key role in protecting our chromosomes from damage and the critical shortening.

Why is telomere length important?
Telomere shortening is correlated with human disease and aging. Short telomeres impair the ability of healthy cells to divide and function properly. Longer telomeres are associated with healthy cell replication and longevity. Telomeres hold remarkable information about the path of our health and may provide the single most important biomarker of aging.

TeloYear Age™ - The New Standard In Cellular Age Testing
TeloYear Age™ is the DNA health test of our Cellular Age. It lets you track it based on your telomere length. Your telomere length tells you your age in TeloYear which may be older or younger than your real age.

Telos95® is validated by human clinical trials to significantly decrease your TeloYear cellular age.

2018 Human Clinical Trial
Telos95® Decreases TeloYear Cellular Age by 8.52 Years

CONCLUSION: A total of fifty (50) subjects completed all aspects of the study. Group A decreased their TeloYear Age™ on average by 7.43 years. Group B decreased their TeloYear Age™ by 8.52 years.
Charles Ross & Son Company


Serving all the process industries in virtually every industrialized country, Ross can offer experience and production capacity that no other manufacturer of specialty mixing and blending equipment can match.

In the United States alone, Ross operates five plants dedicated to engineering, R&D, manufacturing, and process testing. Overseas, Ross Mixers and Blenders are manufactured in four state-of-the-art plants in China and India.

The Ross Test & Development Center, located at the company’s corporate headquarters in Hauppauge, NY, is the industry’s best-equipped laboratory for process testing. Each year, hundreds of Ross customers visit our test center to confirm their equipment selections and optimize their processes.

The Driving Force in Sanitary Mixer/Blender Design
Ross design innovations have led the evolution of sanitary rotor/stator mixers, multi-agitator mixers, sanitary blenders, and high-speed solid/liquid injection technology.

- **Ribbon Blenders** – Superior quality, priced far below others! Up to 1000 cu ft., with dozens available for immediate shipment
- **Vertical Cone Screw Blenders** – Space-saving design with fast, complete discharge
- **Batch Rotor/Stator High-Shear Mixers** – For dispersions and emulsions
- **In-Line Rotor/Stator High-Shear Mixers** – Single-stage and multi-stage models for fine emulsions and dispersions
- **Ultra-High-Shear In-Line Mixers** – New rotor/stator designs generate higher tip speeds and more intense shear
- **SLIM Solid/Liquid Injection Technology** – Eliminates the persistent clogging of conventional eductor-based systems
- **Multi-Agitator Mixers** – 1 gallon to 1000 gallons capacity. Change-can designs available.
- **Advanced Control Systems** – From single-axis to multi-axis designs

Equipment Purchase or In-Plant Trial/Rental
Ross can provide the equipment to meet your need for increased mixing capacity. Ross maintains the industry’s largest fleet of rental mixers and blenders, with many sizes and configurations in stock for immediate delivery.

Many customers choose our rental option to put capacity online to meet short-term demand or for pilot-testing new products. An in-plant trial/rental can also provide an opportunity to test new equipment on your process line prior to purchase.

Contact Ross for information or to schedule a no-charge test.
Click on www.sanitarymixers.com or contact Chris Ross at 800/243-ROSS or mail@mixers.com.
“This isn’t your grandfather’s Ribbon Blender.”

With engineering and manufacturing teams working at eight plants on three continents, Ross has taken Ribbon Blender design far beyond anything you’ve seen before in a traditional blender.

And we’re not finished. From our most basic paddle blender to our most advanced sanitary Ribbon Blender with multi-axis controls, our engineers are continuously improving our blenders — making them even more versatile, easier to maintain and more productive.

Ed Urevich
Engineering Manager, Ross Mixing
Employee Owner

Ross Ribbon Blenders are engineered to make cleaning easy, minimize the risk of contamination and optimize production.

Learn more.
Call 1-800-243-ROSS
Or visit mixers.com
Try our Knowledge Base & Product Selector web app: mixers.com/web-app

Scan to learn more.
Connoils, LLC

Connoils® listens, learns and educates to improve the health and vitality of peoples’ lives!

RAW INGREDIENTS TO FINISHED PRODUCTS

Connoils is a leading North American and global manufacturer, distributor and wholesale supplier of innovative plant and animal derived ingredients. We create products that meet food, nutritional and drink grade standards in our new state of the art FSMA/HAACP processing facility. Connoils clients range from startups to big multinational corporations who use our ingredients in their capsules, softgels, dried beverages, tablets, bars and more. Connoils can help any business create oil, oil powder, collagen, lecithin and plant protein based products to meet stringent domestic or international specifications.

Corporate Headquarters
Connoils, LLC
W230S7115 Guthrie School Road
Big Bend, WI 53103
USA

Tele: 262-662-5533
Fax: 262-662-2828
Web Site: www.connoils.com
Email: Sales@connoils.com

Key Personnel
Stacy Peterson
CEO

Michelle Coluccio
Business Development Manager

Brian Ballo
Operations Director
Any Questions?

For over 20 years, Nutritional Outlook has remained the #1 publication in the North American nutraceuticals market. Our brand provides you with innovative content, reliable products and services and unlimited ways to reach your potential customers across the world!

*Based on IMS data as of November 6, 2018. Based on 4 total industry magazines. Print only.
**DRT Purextract®**

**Description**
Purextract® is the plant-extraction division of DRT (Dérivés Résiniques et Terpéniques), a France-based company specialized in natural ingredients.

Founded in 1932, DRT cultivated a unique expertise in pine chemistry. In the late 1950s, DRT opened a research and development center at its Vielle-Saint-Girons site focused on the use of phytosterols.

Building on this expertise, DRT started working on developing an optimal extraction technic, Crystalpure technology®, dedicated to OPC from polyphenols of pine bark and grape seed. It was in the VSG facility, set in the heart of the Landes Forest, that the first-ever pine bark extract was born.

The high concentration of active ingredients makes Purextract’s polyphenols the purest on the market.

Purextract® branded ingredients with proven efficiency:

**OLIGOPIN®, Original Pine Bark Extract:**
- Cholesterol and high-blood-pressure management
- Hyperactivity in children and young adults

**COSMYTHIC®, Original Pine Bark Extract:**
- Reduction of the size and intensity of dark spots (Depigmentation)
- Collagen synthesis at the skin level
- Reduction of wrinkles’ depth and number

**Corporate Headquarters**
DRT Purextract®
30 rue Gambetta
DAX 40100
France

Tel: +33 0 558 566 200
Fax: +33 0 558 566 240
Web Site: www.theoriginalpinebarkextract.com
E-mail: info@purextract.fr

**Key Personnel**
Nathalie Michaud-Luzecki, Sales and Marketing Manager
Bob Conlon, North American Sales Manager

www.theoriginalpinebarkextract.com
HEAVY LEGS, light solution!

The efficacy of Vitaflavan® experienced from the 7th day of treatment*.

- Legs are lighter and cramps less frequent. After 30 days, pain in the legs and in the feet improve while nocturnal awakenings disappear.
- The efficacy of Vitaflavan® in reducing the level of discomfort linked to heavy leg syndrome by half (≈58%).

FOR MORE INFORMATION, VISIT WWW.VITAFLAVAN.COM

vitaflavan®

PROCYANIDINS CONTENT (BY GPC) > 75%
TOTAL POLYPHENOLS CONTENT > 96%

* Use test carried out for 30 days on 203 subjects with chronic venous insufficiency (swollen ankles and feet, superficial dilation of capillary vessels, pins and needles, pain, nocturnal cramps). Daily intake of 150mg of Vitaflavan®
Draco Natural Products, Inc. is a world leader in the manufacture and supply of a wide range of natural full spectrum botanical extract ingredients. Whether you make nutritional supplements, beverages, functional foods, cosmetics or personal care products, Draco sets the standard for exceptional quality herbal extracts, formulation, and technical service for your most demanding product applications.

We have developed a proprietary extraction process which allows us to deliver extracts that are truly in a class of their own. Our Full Spectrum Standardized Herbal Extracts™ are standardized to recognized markers and give you the full range of plant constituents in the balanced proportion that nature intended. It is unique for an herbal extract manufacturer to offer products that both honor the wisdom of nature and satisfy the exacting standards of the scientific community in the same product.

At Draco, exceptional quality is our minimum requirement. Our extracts are processed at our own state-of-the-art 120,000 square foot facility. Our facility and processing are ISO-9001:2015 certified, GFSI – FSSC:22000/ISO-22000 certified, Kosher certified, Halal Certified, HACCP certified, and USDA NOP/EU Organic certified. We produce over 700 different botanical extract ingredients, including over 250 fruit and vegetable extracts and a wide array of herbs, spices, mushrooms and formulas. We even have specialty products like liquid extracts, botanical oils, and ingredients extracted with Supercritical CO2, or with controlled fermentation. We test thoroughly to meet your strictest extract ingredient specifications and we wish to help you create outstanding herbal products of your own.

**Products:**
- Full Spectrum Standardized Herbal Extracts™
- Action Synergized Formulas™
- Vital Spectrum™ Ratio Based Extracts
- Fruit and Vegetable Extracts
- Vital Treasures™ Bioactive Botanical Ingredients for Cosmetics and Personal Care Applications
- Certified Organic Botanical Ingredients
**Description**

Dr. Paul Lohmann is the world’s leading manufacturer of specialty mineral salts for pharmaceutical, nutritional, personal care and industrial applications. Over 130 years of manufacturing experience combined with an innovative spirit and high flexibility enables us to respond quickly to changing needs. We have the broadest portfolio of high value mineral salts available, with over 400 products designed to provide optimum performance across a wide range of applications.

Products and quality levels are developed and optimized according to customer requests, including the engineering of both chemical and physical parameters like bulk density, wettability, particle size, purity, pH-value, etc.

Our production sites are GMP, FSSC 22000/ISO 22000, and ISO 9001:2015 certified. We are FSMA compliant and strictly adhere to the social and environmental standards of DIN EN ISO 50001 and Sedex.

As a global player, Dr. Paul Lohmann has sales representation worldwide. Let us know what you need!
Ecuadorian Rainforest LLC
South America and Beyond

Description
Ecuadorian Rainforest LLC is your premier supplier of nutraceutical ingredients from South America and beyond. Since 1997, Ecuadorian Rainforest has provided over 1,000 all-natural fruit, herb, marine, spice, and vegetable ingredients. With over 20 years of experience in the field, Ecuadorian Rainforest remains one of the industry’s most reliable suppliers of all-natural ingredients.

Associations
• Natural Products Association (NPA)
• American Herbal Products Association (AHPA)
• Organic Trade Association (OTA)
• Better Business Bureau (BBB)

Services
• Star-K kosher certified ingredients
• American Halal Foundation halal certified ingredients
• Conventional, wild harvested, and organic ingredients
• Bulk powders & powdered extracts
• Bulk specialty ingredients

Quality Assurance
Meeting state and federal food and drug regulation says you are committed to passing a periodic review to ensure that your business continues to operate. However, when a company creates its own standards and enforces them on a weekly basis, that company is committed to the clients themselves and to the quality of what people put into their bodies. Ecuadorian Rainforest exemplifies the latter scenario. Some of the ways in which we define and enforce rigorous standards of quality for our products are:

• Internal Quality Control Program to ensure products are free of toxins and undesired byproducts
• Alliances with scientific laboratories to enforce rigorous testing procedures
• Weekly testing for microbial pathogens and heavy metals such as lead, cadmium, arsenic, and mercury
• Microbiological testing (total plate count, yeast and mold, coliforms, E. coli, and Salmonella)
• Random testing of materials’ moisture content
• High-Performance Thin-Layer Chromatography (HPTLC) testing for initial approval and supply
• High-Performance Liquid Chromatography (HPLC) testing for powdered extracts
• Prevention of all sub-potent and contaminated materials from entering products
• Regular testing for proper identification and chemical efficacy

Major Products
Black Currant, Longjack, Golden Berry, Acerola, Beetroot, Pumpkin Seed, Guava Leaf

Superfruits: Acai, Acerola, Goji, Maqui, Pomegranate
South American Ingredients: Pata de Vaca, Cassava, Yerba Mate, Lucuma, Purple Corn, Maca
Lifestyle Support: Vegan, Paleo, and Keto
Natural Colorants & Sweeteners: Tomato, Carrot, Stevia, Monk Fruit, Blueberry
Energy: Guarana, Guayusa, Green Tea
Plant Proteins: Rice Protein, Soy Protein, Lentil, Pumpkin Seed, Fish Protein
Alternative Grains: Quinoa, Chia, Millet, Amaranth, Garbanzo

...and many more ingredients from around the world!
Ingredients from South America and Beyond

All Natural Fruit, Herb, Marine, Spice & Vegetable Powders & Extracts

- Quality Assurance International (QAI) USDA-Certified Organic Ingredients
- Conventional & Wild-Crafted
- Certified cGMP-Compliant Facility
- Non-GMO, ETO-Free, and Third-Party Laboratory Tested
- Popular Ingredients: Acerola, Blueberry, Brussels Sprout, Chanca Piedra, Irish Moss, Kelp, Maca, and more!

222 Getty Ave • Clifton, NJ 07011
Tel. 973.759.2002 • Fax. 973.759.3002
info@intothereainforest.com

Discover a world of nutraceutical ingredients at:
IntoTheRainforest.com
Description
Since our inception in 1954, Elizabeth has become the premier global supplier of compression tooling, rotary tablet presses, spare parts, and services to the rotary tableting industries. Our range of powder-compression technologies include Elizabeth Carbide Die compression tooling, Elizabeth Scheu & Kniss replacement parts and services, Elizabeth-Hata tablet presses, and, more recently, the Eliza-Press series of economic presses. Elizabeth's customers are world leaders in the pharmaceutical, nutritional, battery, powdered metal, ceramic, electronics, automotive airbag, nuclear fuel, and confectionery industries.

Elizabeth is your global partner for precision compression tooling and tablet press spare parts. With modern manufacturing centers in America, Europe, and Asia, and our network of experienced customer service and sales staff, you can count on Elizabeth to support your needs before, during, and after your purchase.

As worldwide capabilities have steadily grown, the company continues to thrive based on its founding principle—the Elizabeth philosophy of Complete Customer Satisfaction. Elizabeth is dedicated to providing the best possible products and services through an unequalled level of satisfaction, trust, communication, and customer service.

Corporate Headquarters
Elizabeth Companies
602 Linden Street
McKeesport, PA 15132, USA
Toll-Free Number: 800/635-6303
Tel: 412/751-3000
Fax: 412/751-2390
Web Site: www.eliz.com
E-mail: sales@eliz.com

Locations of Other Offices and Facilities
Elizabeth-Hata International
Huntingdon, PA, USA
Tel: 412/829-7700
Elizabeth Carbide of North Carolina
Lexington, NC, USA
Tel: 336/472-5555
Elizabeth Scheu & Kniss
Louisville, KY, USA
Tel: 502/635-6303
Elizabeth Europe
Blois, France
Tel: +33 (0) 254 902 120
Elizabeth Carbide Europe
Aartselaar, Belgium
Tel: +32 (3) 830 1081

Key Personnel
Scott Koehler, Tooling
Ryan Keefer, Hata Presses
Wayne Galloway, Tablet Press Parts

We understand that your products depend on the reliability of your equipment. Consumers must trust your products every day, and you demand consistent quality of your tablets. For over 60 years, Elizabeth Companies have put a personal guarantee on customer satisfaction and taken pride in innovative solutions. We promise our customers unequalled level of customer service, product performance, prompt and courteous communication, and trust. Experience the difference, the Elizabeth difference.
Corporate Headquarters
Evolva
Duggingerstrasse 23
Reinach, BL, 4153
Switzerland
Tel: 800/250-1032
Web Site: www.veriteresveratrol.com
E-mail: res@veriteresveratrol.com

Locations of Other Offices and Facilities
80 East Sir Francis Drake Blvd,
Suite 2D
Larkspur, CA 94939, USA

Key Personnel
Sally Aaron,
Senior VP Health Ingredients and Marketing
sallya@evolva.com

Gene Adamski,
Evolva Sales Manager, North America
genea@evolva.com

Clare Panchoo,
Evolva Sales Manager, EMEA
clorep@evolva.com

Description
Evolva was founded in 2004 and has operations worldwide today. Based on a strong research foundation, Evolva is a pioneer and global leader in sustainable, fermentation-based products, including resveratrol, the powerful healthy-aging ingredient.

Evolva’s resveratrol, Veri-te™ resveratrol, comes from an innovative yeast fermentation process which delivers a consistent, contaminant-free, high-quality ingredient that easily formulates into a variety of applications.

Bioavailability can be the key to differentiating your brand.
Introducing Veri-Sperse™ resveratrol with enhanced bioavailability in a unique, cold water dispersible format.

This NEW format allows for unlimited possibilities:
BIOAVAILABLE: enhanced bioavailability
VERSATILE: off-white, odorless, neutral taste, cold water dispersible
EASY: formulate into beverages like instant powder drinks, liquid shots, gel packs or use in capsules and tablets

Learn more at www.veriteresveratrol.com or call us at +1-800-250-1032
Veri-Sperse™ is a trademark of Pharmako Biotecologies
FrieslandCampina Ingredients

Description
We are FrieslandCampina Ingredients. But we didn’t get here overnight. For decades, we’ve been expanding our expertise, discovering new markets and applications from our innovative thinking, raising the bar for what can be in ingredient science. We’re here as a result of many trusted brands coming together, each bringing experts and insights in unique markets. Those legacies are reflected in the relationships we’ve built and the reputation we’ve earned in Early Life Nutrition, Cell Nutrition, Active Nutrition, Food & Beverages, Medical Nutrition, and Performance Nutrition.

Milk from our own dairy farmers is processed into specialized ingredients such as:

• Caseinates
• Milk Proteins
• Whey Proteins
• Encapsulates
• Hydrolysates
• Prebiotics

We work hard to make sure your product’s ingredients are reliable, safe, and pure. We can say that as we maintain control and oversight of our entire production and supply chain. We’re watching every movement—whether it’s grass to glass, farm to pharmacy, or a custom creation in our modern and well-monitored facilities.

Our focus is on taking nature’s gift of milk and turning it into something better. So we work tirelessly to increase nutritional benefits, new sensory experiences, and innovative application methods to bring more goodness to your products and the people you serve.

Interested in learning more?
Visit us at Booth #3429 at SupplySide West this year!

Corporate Headquarters
FrieslandCampina
Stationsplein 4
3818 LE, Amersfoort
The Netherlands
Tel: +31 (0) 33 713 33 33
Web Site:
www.frieslandcampinaingredients.com
E-mail:
info.request.usa@frieslandcampina.com

Locations of Other Offices and Facilities
Paramus, NJ, USA

Key Personnel
Sarah Staley,
Vice President, Adult Nutrition
Rudy Dieperink,
President & CEO - Americas Region
Get to know our natural and pure ingredients

Our ingredients tap into consumer demand for more natural nutritional solutions to help meet their nutrition, training and fitness goals.

**Nutri Whey™ Isolate**
Giving dairy protein a clean, new look

**Nutri Whey™ Native**
A pure product begins with pure ingredients

**Micelate™ Prestige**
Discover the power of natural, long-lasting protein

frieslandcampinaingredients.com
Farbest Brands brings the highest quality food, beverage and nutrition ingredients to you from the world’s most trusted suppliers. We enjoy over 60 years of long-lasting relationships with our customers because our business is built on integrity and representing the most ethical suppliers in the industry.

Committed to Quality
Now more than ever, consumers are demanding clean-label and organic ingredients. Farbest offers USDA-certified organic, non-GMO, rBST-free, pasture-fed, allergen-free, gluten-free, kosher, vegan, and halal ingredients. Farbest supplies dairy proteins, plant proteins, vitamins, carotenoids, specialty nutrients, gum acacia, natural colors and specialty sweeteners.

Outstanding Service
Our deep commitment to providing outstanding customer service means when you call us, you’ll speak with a real person and get the personalized service you deserve.

Market Insights
Gain a competitive advantage with our extensive market knowledge and six decades of industry experience. We spot the trend before it’s a trend and can help you decide what to source, when to buy, and more.

To request a free ingredient sample, along with product information and specification sheet, visit www.farbest.com/sample-request. Have a question? Need a quote? E-mail information@farbest.com or call us today at 800/897-6096!

Farbest Brands Products

Non GMO
Consumers are demanding natural ingredients in their food and beverages, ones that are free from modifications like GMO, rBST, and allergens. Farbest can help you meet this need with a full range of high-quality proteins, vitamins, nutrients, vitamin premixes, sweeteners, and gums—along with organic ingredients—at cost-effective pricing.

Non-GMO Project Verified
Farbest Brands offers a full range of ingredients that are Non-GMO Project Verified. Pea Protein: Organic & Conventional Gum Acacia: Organic & Conventional Soy Protein Organic Soy & Sunflower Lecithins FarSweet™ Non-GMO Crystalline Fructose

Proteins
Dairy Proteins: rBST-free, pasture-fed, kosher, and halal. Products include casein, caseinates, whey protein concentrates and isolates, and milk protein concentrates and isolates.


Organic

Gum Acacia
Farbest offers Gum Acacia Senegal and Seyal varieties. Our Gum Acacia is non-GMO, Non-GMO Project Verified, gluten-free, and vegan, as well as kosher and halal certified. Available in both conventional and USDA-certified organic versions.

Natural Colors
Farbest offers a line of natural colors that can be custom formulated to meet your specific color target, shelf life or process.

Vitamins
Farbest offers a complete line of vitamins and carotenoids, including vitamin premixes and blends.
Gnosis

Gnosis by Lesaffre, a business unit of Lesaffre, is a world expert in yeast, bacteria and pure molecule from fermentation, dedicated to human health and nutrition. The company aspires to be a trusted innovation partner for its clients in the pharmaceutical, nutritional and functional food industries, and to assist them in helping consumers lead healthier and happier lives.

From nutritional and fortified yeasts to yeast fractions, probiotic yeasts and bacteria, vitamin or pure molecules, Gnosis by Lesaffre develops and supplies innovative solutions and ingredients of natural origin with scientifically proven efficacy to target a wide range of applications: digestive health, bone protection, immunity enhancement, joints and liver health, women’s health, vegetarian support and overall wellbeing.

Corporate Headquarters
Gnosis by Lesaffre
Via Lavoratori Autobianchi 1
20832 Desio (MB), Italy
Tel: +39.0362.16.70.001
Web Site: www.gnosisbylesaffre.com
E-mail: marketing@gnosis.lesaffre.com

Locations of Other Offices and Facilities
137 rue Gabriel Péri
59700 Marcq-en-Baroeul
France
Tel: +33 (0)3 20 81 61 00

Gnosis by Lesaffre – US Office
4259 West Swamp Road,
3rd Floor Suite 305, Doylestown,
Pennsylvania 18902 - USA
Tel: +1.215.340.7960

Key Personnel
Marc Philouze,
General Manager, Gnosis by Lesaffre
Micheal Petteruti,
Vice President, Gnosis by Lesaffre USA
Paolo Malesani,
Global Sales Director,
Gnosis by Lesaffre
Silvia Pisoni,
Marketing Manager, Gnosis by Lesaffre

Description
Gnosis by Lesaffre, a business unit of Lesaffre, is a world expert in yeast, bacteria and pure molecule from fermentation, dedicated to human health and nutrition. The company aspires to be a trusted innovation partner for its clients in the pharmaceutical, nutritional and functional food industries, and to assist them in helping consumers lead healthier and happier lives.

From nutritional and fortified yeasts to yeast fractions, probiotic yeasts and bacteria, vitamin or pure molecules, Gnosis by Lesaffre develops and supplies innovative solutions and ingredients of natural origin with scientifically proven efficacy to target a wide range of applications: digestive health, bone protection, immunity enhancement, joints and liver health, women’s health, vegetarian support and overall wellbeing.

Innovative global player in yeast, bacteria and pure molecule from fermentation, Gnosis by Lesaffre provides scientifically-proven and sustainably-sourced active ingredients and solutions to customers in the pharmaceutical, nutritional and functional food industries for a wide range of health benefits.
GMP Labs
You know your marketing. We know our manufacturing.

Description:
For today’s fast-paced and ever-changing marketplace, the need for a dependable, versatile and certified contract manufacturer partner is critical. For over twenty years, GMP Laboratories of America has been providing our clients with the quality products made to current Good Manufacturing Practices (cGMP) standards in a variety of different dosage forms, including tablets, capsules, liquids, and powders. We are recognized in the nutraceutical industry for our attention to detail, flexibility, and quick turnaround. Our team of qualified professionals will offer innovative solutions for your specific needs. Our friendly staff and our personal service have played a key role in establishing GMP Labs as a leading contract manufacturer and packager of quality dietary supplements and homeopathic drug products.

Manufacturing:
Hard Shell Capsules
- Capacity exceeds 400 million per month

Tablets
- Capacity exceeds 500 million per month
- Customizable tablet shape
- Special Tablet Formulations
- Enteric coating
- Aqueous coating
- Rapid release
- Quick dissolve
- Chewable

Liquids
- RTD (ready to drink) supplements
- Premium health juices

Powder Blends
- Capacity exceeds 1,000,000 kg per month
- V-Blending
- Planetary mixers
- Ribbon blending
- Particle Sizing

Packaging
- Bottle Filling & Labeling
- Fully automated lines
- Flexible run sizes
- Big Container Filling
- From small jars to large buckets

Product Development & Technical Services:
Custom Formulations
- Our highly skilled team of chemists offer formulation assistance.

Pilot Batches
- Turn your concept to reality with a free pilot batch when you purchase a full production batch of the pilot formula.

Corporate Headquarters
GMP Laboratories of America Inc.
2931 E. La Jolla St.
Anaheim, CA 92806

Tel: 714/630-2467
Fax: 714/237-1374
Web Site: www.gmplabs.com

Key Personnel
Suhail Ishaq, President
Yusuf Ishaq, COO
Adam Ishaq, Sales Manager
GMP LABORATORIES OF AMERICA, INC.
CUSTOM CONTRACT MANUFACTURER OF QUALITY SUPPLEMENTS
Personalized Service • High Quality • Prompt Turnaround

Best in Class Contract Manufacturing. Best in Class Service.

GMP Labs® is your best choice for manufacturing dietary supplements and homeopathic drug products:
• Tablet Compression • Hard Shell Encapsulation
• Powdered and Liquid Drink Blends • Bottles • Jars

EX P O R T
Canada  China  Singapore  Korea
Mexico  Japan  Malaysia  Saudi Arabia
UK  Hong Kong  Indonesia  U.A.E.
EU  Taiwan  Vietnam  El Salvador

Call us at:
(714) 630-2467
www.gmplabs.com

Anaheim, CA 92806
© 2019 GMP Laboratories of America, Inc.
All rights reserved.
Gold Coast Ingredients
Where Science, Nature and Knowledge are brought together for your success

Description
Gold Coast Ingredients is a privately held and operated, wholesale flavor and color manufacturer that has been satisfying taste since 1985. We are a GFSI certified company capable of serving all types of industries from food and beverages to animal treats and oral care. With us you will find Organic, Natural, Non-GMO, Allergen-Free and other Clean Label flavors that take your most delicious ideas and translate them into a universal language for the world to enjoy.

Our flavors are available as liquids, powders, powder encapsulations, emulsions and advanced extractions to be compatible with any product requirements. GCI also supplies QAI Certified Organic, ISA Certified Halal, OU Certified or KOF-K Certified Kosher flavors upon request.

In addition, Gold Coast provides custom Masking Agents, Sweetness Enhancers, and Salt Reducers for various applications. GCI Masking Agents help reduce unwanted tastes and bitterness of natural ingredients such as stevia, vegetable protein, amino acids, vitamins, minerals, and fish oil.

Our current manufacturing facility is located in Commerce, California, and our products are developed at our S.M.A.R.T. Center in Santa Fe Springs, California where we have positioned Sales, Marketing, Applications, Research, and Technology together under one roof in order to maximize our creative efforts.

Corporate Headquarters
Gold Coast Ingredients
2429 Yates Ave.
Commerce, CA 90040

Toll-Free: 800-352-8673
Tel: 323/724-8935
Fax: 323/724-9354
Web Site: www.goldcoastinc.com
E-mail: info@goldcoastinc.com

Locations of Other Offices and Facilities
Shenzhen, Guangdong Province, China
Tel: +86 0755 29807378

Key Personnel
Jim Sgro,
President

Jon Wellwood,
General Manager

Michele Trent,
Corporate Sales Manager
FLAVORS & COLORS

Organic
Natural
Non-GMO
Allergen-Free
Gluten-Free
100% Vegetarian
Masking
and more custom flavors

GFSI
Organic
Halal & Kosher
certified

Browse through thousands of sweet & savory flavors at www.goldcoastinc.com

GOLD COAST
ingredients, inc.

Tel +1 (323) 724-8935
Contact: info@goldcoastinc.com
Since 1943, Grain Processing Corporation has been developing products that touch the lives of millions of people every day. We offer an industry-leading line of maltodextrins along with a diverse range of food starches. GPC ingredients are used in a wide variety of food, beverage, and nutritional products. We are committed to collaborating with customers to create innovative solutions that meet their needs. Our commitment to quality is second to none and is supported by the world-renowned GPC global supply and service.

**Premium Maltodextrins**
As an industry leader, providing a dependable supply of high-quality maltodextrins is a primary focus for GPC. With an unmatched product line, GPC MALTRIN® maltodextrins and corn syrup solids are considered the gold standard for the industry. They are used in various applications, including nutritional and sports beverages, infant formulas, nutritional bars, frozen desserts, and healthy snacks. They help build solids, improve texture and product stability, reduce calories from fats and oils, moderate sweetness, and aid in the dispersion of other ingredients. Their neutral flavor profile, low hygroscopicity, and high solubility make them ideal for spray drying flavors, colors, and fruit juices. Quick-dispersing versions are also available.

**Tapioca Maltodextrins**
GPC’s MALTRIN® tapioca maltodextrins and tapioca syrup solids (MALTRIN® T-Series) are sourced from 100% tapioca. MALTRIN® tapioca maltodextrins and tapioca syrup solids are allergen-free and Cronobacter-free, which makes them ideal for infant nutrition formulations among numerous other applications. These tapioca-based products can also help with clean-label requirements for many customers.

**Specialty Starches**
Another primary focus is our family of specialty starches, including PURE-COTE® coating/film-forming starches, INSCOSITY® instant modified starches, PURE-SET® thin-boiling starches, PURE-GEL® stabilized starches, and PURE-DENT® unmodified and specialty starches. This unique product line has evolved to solve very specific product integrity challenges. They are used in a myriad of applications to thicken, bulk, bind, carry, gel, coat, manage moisture, stabilize, replace or reduce fat, or aid in spray drying.

**Exceptional Products, Superior Service**
Non-GM available
Contact GPC Today
For more than 15 years, GPC has offered Non-GMO ingredients, using our own stringent traceability practices. And now to further our commitment in response to consumer demand for even more transparency and traceability, we participate with the Non-GMO Project to certify our Non-GMO ingredients. **Contact GPC today.**

**GRAINPROCESSING.COM**

Maltodextrin | Corn Syrup Solids | Food Starch | Alcohol

E-mail: food.sales@grainprocessing.com  Phone: 563.264.4265

© 2019 Grain Processing Corporation
Green Source Organics
From the Seed to Fulfilling Your Need

Description
Green Source Organics is a worldwide natural ingredients specialist, providing manufacturers with a sustainable, safe, and secure source of both organic and conventional products. Renowned for premium botanical and marine extracts, Green Source Organics specializes in producing and distributing all-natural fruit and vegetable powders, vegan proteins, and plant oils.

Services
Green Source Organics adheres to the highest level of excellence in all areas of operations:
• Raw material acquisition
• Import & export
• Quality assurance
• Traceability and identity
• Research and development
• Customer and supplier relations

Certifications
• Organic
• Kosher
• GMP
• APHIS

Products
Fruit & Vegetable Powders, Plant-Based Proteins, Grass & Grass Juice Powders, Fiber/Prebiotics, CBD, Green Lipped Mussel, Marine Extracts, Carrier Oils, Essential Oils, Oleoresins, Natural Colors/Flavors, Grains,
Hilmar Ingredients delivers the promise of dairy – whey protein and lactose – powerhouse ingredients for nutrition and function. We have achieved SQF Level 3 certification and our facilities meet the requirements of Global Food Safety (GFSI). Our products are Kosher and Halal certified and EU-conforming.

We manage our business to balance economic, social and environmental sustainability.

Fortification with Hilmar Whey Protein provides a positive nutritional advantage – the highest-quality protein source with abundant amino acids and digestibility. Hilmar Whey Protein also delivers bland flavor, emulsification, heat and acid stability, and spoon-stirrable dispersibility. Give us a call to fortify your foods and beverages with Hilmar Whey Protein.

Corporate Headquarters
8901 North Lander Ave.
Hilmar, CA 95324
Tel: 209/667-6076
Fax: 209/656-2557
Web Site: www.hilmaringredients.com
E-mail: info@hilmaringredients.com

Location of Manufacturing Sites
Hilmar, CA
Dalhart, TX

Key Personnel
Grace Harris,
Director of Applications and Business Development

Gwen Bargetzi,
Director of Marketing

Say “Hi” to the best part of milk
It’s true – whey protein is the best part, delivering a complete protein that is easily digestible. Whey protein’s value is proven; backed by years of research and broad acceptance by consumers. Hilmar Ingredients manufactures high-quality whey protein at our GFSI-certified facilities. Learn how to use whey protein to your product’s advantage by calling our applications experts.

Hilmar Ingredients whey protein means:
• Freshly processed whey from secure milk supply
• Concentrated source of protein
• Beneficial nutritional components
• Highly functional
• Naturally pleasant flavor

Learn more at hilmaringredients.com or give us a call: 209.667.6076
Indena
Excellence as ancient tradition

Indena is a leading Italian company in the field of botanical extracts with a strong international soul, operating in the pharmaceutical field since 1921. Headquartered in Milan, Indena has 5 international branches worldwide (Europe, Asia, USA and South America) and 5 production sites, processing twenty-thousand tons of raw materials per year, 90% of them sold in international markets.

Indena’s success has always been grounded in four pillars: botanical expertise (GACP, biodiversity, micropropagation); research (screening processes, pre-clinical, clinical), scale up and industrial production (dedicated areas, extraction, purification, isolation), and quality, safety and efficacy. These are the basis for the development and production of high quality active principles derived from plants, for use in the pharmaceutical, health food and personal care industries. They include pure molecules, selected active principles, standardized extracts, semi-synthesis active principles and the Phytosome delivery system, all of them with documented and specific activity.

For more than two decades, Indena has been active in the food supplement and functional food market, offering standardized extracts from edible plants, whose activity is supported by a wide number of scientific studies that provide evidence of the safety and efficacy profile. Indena products for the nutrition market are validated and certified, and comply with the highest quality and regulatory standards mandated by different countries.

Indena’s commitment towards the environment and employees’ safety and wellness has been formalized by the ISO14001 and the OSHAS 18001 certifications for its production sites of Settala (Italy) and Tours (France).

In 2013 Indena started the SuSo (Sustainable Sourcing) program with the creation of a multidisciplinary team. The approach includes a sustainable sourcing standard and guidelines referring to environmental and social specifications for the supply chain, aimed at making them even more sustainable. Some of the projects already completed have received awards at the international level.

Indena in figures:
- 5 production sites and 5 international branches
- About 800-strong workforce
- About 10% of turnover invested in research
- Cultivation, production and sales in over 80 Countries
- More than 120 primary patents and more than 700 scientific articles published
- Business sectors: 58% pharmaceutical, 37% nutraceutical, 5% personal care
- 120 botanical species cultured in 57 Countries

Corporate Headquarters
Indena S.p.A.
Viale Ortles 12
20139 Milan, Italy
Tel: 0039 02 574961
Fax: 0039 02 57496374
Web Site: www.indena.com
E-mail: marketing@indena.com

Locations of Other Offices and Facilities
Indena USA Inc.
Two Union Square
601 Union St., Ste. 330
Seattle, WA 98101
Tel: +1 206/340-6140
Fax: +1 206/340-0863

Key Personnel
Gregory Ris,
Vice President for Sales
Modern working life can be hard on the eyes. Fortunately, Indena has a gold standard natural bilberry extract whose properties have been clinically demonstrated, notably in the fields of vascular health and ophthalmology.

It’s called Mirtoselect®, and, unlike many other bilberry extracts on the market, it has a highly specific fingerprint identified using HPLC analysis. It originates from fruit that has been authenticated also with genomic identification, contains 36% of anthocyanins and is standardised, completely safe and used in several supplement formulations.

Mirtoselect® is backed by Indena’s long scientific background, dating back almost a century, and its efficacy is confirmed by innumerable studies: it is, in fact, the most studied bilberry extract in the market.

To know more, indena.com.

This advertisement is published in a magazine distributed in various countries all over the world and so may contain statements not applicable to your country. Marketers of finished products containing Mirtoselect® are responsible for ensuring compliance with all applicable laws and regulations of countries where the finished products will be sold.
Why Jiaherb?

JIAHERB is the industry’s premier NSF GMP-certified manufacturer of natural ingredients. Our commitment to our customers is to provide reliable, high-quality ingredients supported by our superior customer service and competitive pricing.

JIAHERB knows that the ingredients you choose to put into your products are a reflection upon your standards of quality and excellence. We guarantee our customers consistent efficacy and efficiency through fast delivery, large inventory of products, 100% traceability, complete regulatory documentation, and uncompromised service and support.

Our People

Our greatest asset is our people. Over eight hundred dedicated, highly motivated employees around the world make up the JIAHERB team. Our continuous growth and strong foundation are a direct reflection of our employees’ diligence, pride, and enthusiasm.

Sustainability

JIAHERB commits itself beyond the products and services by upholding ethical values in relationships with customers, employees, and partners as well as in the way we respect our planet. The core of our sustainability strategy creates value through social, economic, and environmental means.

In the Factory

Located in Xi’an, China, JIAHERB’s production team uses innovative and high-tech extraction, purification, and spray-drying equipment to streamline the manufacturing process to allow for large batches with short lead times. The experience and reliability of our production team allow JIAHERB to produce thousands of metric tons of natural ingredients per year.

Reliability

Reliability is linked to every aspect of our business, from sourcing and regulatory to technical services, sales logistics, and accounting. Our proactive approach allows our customers to achieve the trust needed with a supplier and to deliver dependable customer service. Our technical and regulatory support teams are always available to offer technical product knowledge and regulatory guidelines to bring you a fully compliant product. Our experienced sales and customer service teams offer timely and knowledgeable responses that help our customers get the competitive edge needed. Lastly, our logistics team is specially designed to deliver dependable product supply. We aim to significantly reduce any supply chain interruptions since we know how impactful such disturbances are on our customers’ production efficiencies and profitability.

Traceability

Traceability is your assurance that the products JIAHERB delivers are reliable and sustainable. Ultimately designed to improve product confidence, we have established programs that consist of an identification verification program and a program with tracking procedures that control and verify product characteristics at every stage of the manufacturing process, from arrival of raw materials through to storage, production, warehousing, and sales. Our advanced material management system allows us to precisely trace all products within the supply chain.

HERBALINK™ Botanical Identification Chain of Custody Program

Jiaherb recognizes that there is much uncertainty among manufacturers and consumers, about the integral quality of the botanical products they purchase. As a testament to our never-ending commitment to customer satisfaction, and to ease customer concerns about the integrity of our products, Jiaherb proudly introduces HerbaLink™.
81% GROWTH OVER THE PAST 10 YEARS.

Any Questions?

For over 20 years, *Nutritional Outlook* has remained the #1 publication in the North American nutraceuticals market. Our brand provides you with innovative content, reliable products and services and unlimited ways to reach your potential customers across the world!

*Based on publisher’s own data.*
Description
For over 30 years, Jost Chemical Co. has manufactured high-purity mineral salts for the nutritional, clinical nutritional, and pharmaceutical markets. Jost’s 32,400-m² FDA-registered manufacturing sites, including a new site in Kościan, Poland, operate under bulk pharmaceutical cGMPs. Jost is a trusted global supplier. Our products meet or exceed USP/NF/EP/FCC standards, are fully reacted, are lot-to-lot consistent, and have very low levels of vagrant metals such as Pb, Hg, Cd, As, etc. Jost also manufactures a family of Ultra-Pure calcium salts with very low levels of aluminum.

Our wide selection of 250+ products includes ascorbates, citrates, fumarates, gluconates, glycinates, lactates, malates, nitrates, phosphates, and sulfates. Products manufactured by Jost are Kosher- and Halal-certified, allergen-free, and GMO-free. All products are completely tested in house. Jost manufactures products with particle sizes ranging from free-flowing granular to ultrafine (< than 6 microns) powders for improved suspension of insoluble minerals.

Products are typically packaged in fiber drums, bags, cartons, and super sacks. Custom packaging is also available. Jost routinely ships orders ranging in size from one drum to a truckload.

Jost also manufactures JOSTCOTE microencapsulated high-purity mineral salts, including copper gluconate 20%, ferrous fumarate 60%, ferrous sulfate dried 60%, reduced iron 70%, magnesium oxide 40%, manganese sulfate 50%, and zinc oxide 50%.

Custom Products
Jost is committed to working with our customers to provide value-added solutions and personalized service. Our experienced and dedicated technical staff responds quickly and thoroughly to customer requests for technical information, customer-requested testing, etc.

Key Products
- Calcium Citrate – USP/FCC
- Calcium Magnesium Citrate
- Calcium Phosphate Tribasic NF/EP/FCC
- Copper Gluconate – USP
- Cupric Oxide Purified
- Ferrous Lactate
- Magnesium Citrate Tribasic – USP
- Magnesium Gluconate – EP
- Magnesium Phosphate Dibasic USP/FCC
- Magnesium Glycinate
- Magnesium Malate
- Manganese Citrate – USP/FCC
- Manganese Sulfate – USP/EP/FCC
- Manganese Gluconate – USP
- Zinc Citrate – USP Low Lead
- Zinc Oxide – USP Low Lead
- Zinc Gluconate – USP
- Zinc Sulfate – USP
We specialize in high-purity mineral salts with exceptionally low levels of heavy metals.

With 30 years of experience, Jost manufactures high-purity USP/EP/FCC mineral salts in cGMP-compliant, FDA-registered facilities. Our products are fully reacted, consistent from lot-to-lot and meet all customer requirements. Jost’s team of scientists provide particle size options, custom product development and technical support.

Visit jostchemical.com
US +1 314 428 4300 EU +32 85 552 655
KEB Nutraceutical USA Inc.
Condensing Nature for Health

Description
KEB (Inner Mongolia Ever Brilliance Biotechnology Company, Ltd.) was founded in 2000 and is located in Inner Mongolia. KEB is a professional manufactory focused on developing and supplying standardized plant extracts, functional sugars, and natural pigments for dietary supplements, pharmaceuticals, nutraceuticals, cosmetics, etc. KEB successfully listed on the China National Equities Exchange and Quotations (NEEQ) in October 2016 (Ticker: 839916).

- KEB achieves high vertical integration by building up its own farms, R&D center, manufactory and sales team.
- Its main products include UClear® (D-Mannose), ThiLiver™ (Silymarin), ECare™ (Lutein & Zeaxanthin), UltraAsta™ (Astaxanthin), Sesapower® (Sesamin & Sesamolin)
- KEB Group includes two factories, 12,000 acres of its own farmland, a wholly owned subsidiary company in the USA (KEB Nutraceutical USA Inc.), and a subsidiary in Beijing (Simplex).
- KEB has a professional R&D team including Professors and PhDs, and has achieved many authorized patents and innovation awards due to breakthroughs in technology.
- KEB has a superior quality-control system and has been certified by NSF-GMP, Organic (USDA and ECOCERT), ISO9001, ISO22000, Halal, and Kosher.
- Our mission is "Condensing Nature for Health." We will always supply excellent products to our customers.

Corporate Headquarters
KEB Nutraceutical USA Inc.
1948 S. Lynx Pl.
Ontario, CA 91761
Tel: 714/990-8830
Fax: 714/784-2409
Web Site: www.kebnutra.com
E-mail: sales@kebnutra.com

Locations of Other Offices and Facilities
1099 Wall S. West, Ste. 136
Lyndhurst, NJ 07071
Tel: 201/933-3969

Key Personnel
Xinliang Bai,
Founder and President
Iris Liao,
CEO

Featured Products
UClear® (D-Mannose)
ThiLiver™ (Silymarin)
ECare™ (Lutein & Zeaxanthin)
UltraAsta™ (Astaxanthin)
Sesapower® (Sesamin & Sesamolin)
Cistanche Extract

Major Markets
- Dietary Supplements
- Herbals
- Functional Foods
- Nutritional
- Pharmaceuticals
- Cosmetics

Major Products
- Herbal Extracts
- Functional Sugars
- Natural Pigments
- Nutraceuticals

Specialized Services
- Custom Made
- Technical Support
- New Product Development
- Testing Lab
MORE TECHNOLOGY

MORE SOLUBILITY

Captisol is a proprietary technology that is rationally engineered to improve solubility, stability, bioavailability, taste masking and formulation of water-insoluble ingredients.

Try your FREE starter kit today at CAPTISOL.COM!
Lallemand Health Solutions: Quality probiotics. Complete solutions.
As a pioneer in the probiotic industry since 1934, Lallemand Health Solutions provides probiotic products with solid scientific research, custom formulations, and unique customer service to its partners in more than 60 countries. LHS has developed complete probiotic ranges for gut health, natural defenses, women’s health, kids and teens, sports, oral health, and mood balance (gut-brain axis).

Backed by our know-how and expertise, we can offer a full line of ready-to-market probiotic formulas (including proprietary Lacidofil®, ProbioKid®, Probio'Stick®, IBacillus+), as well as help our partners to design their own custom and complex formulations using Harmonium, Lafti®, or Rosell® probiotic strains together with our proprietary protective technologies.

We currently manufacture more than 600 unique formulas yearly. Our offerings are segmented in four ranges to cater to different customers’ needs:

- **EXPERT’ Biotic™**
  A range of ready-to-market documented formulas available in several dosage forms with stability data, and that can be used as ingredients

- **SMART’ Biotic™**
  Our best-in-class formulas selected for their scientific rationale and/or their key features, targeting specific health segments and populations

- **UNIQUE’ Biotic™**
  Custom and complex formulations using scientifically substantiated Rosell®, LAFTI®, or Harmonium® probiotic strains.

- **COMBOCAP® Biotics**
  Our solution to house unprocessed, incompatible probiotic ingredients in an innovative and visually appealing single dual-chamber wet-and-dry capsule, enabling the creation of new brand categories in combination supplements.

All our production facilities are GMP inspected and certified for quality-control processes. We are the first probiotic producer whose production facilities in Canada bear the United States Pharmacopeia (USP) Quality Systems GMP certificate (Dietary Supplements).

Our QA systems ensure the quality, efficiency, and safety of our probiotic cultures and products while complying with the regulatory standards imposed on natural health products, DFS, OTC, or in specific cases for API and drugs.

Thanks to its long-term manufacturing experience, Lallemand Health Solutions distances itself from the limited circle of bacteria manufacturers in providing an integrated offering of probiotic strains and blends or custom formulations combining probiotic bacteria and yeast produced to the highest quality standard. This is why we define ourselves as a complete probiotic solutions provider.
QUALITY PROBIOTICS. COMPLETE SOLUTIONS.

85 years of know-how
60+ countries
40+ proprietary strains
500+ formulas
1 in 8 employees in R&D
330+ publications

healthsolutions@lallemand.com
www.lallemand-health-solutions.com
Marinova Pty Ltd

The Fucoidan Experts

**About Marinova**

Marinova is an Australian biotechnology company dedicated to the development of high-purity seaweed extracts for the betterment of human health. The company specializes in the research, development, and manufacture of fucoidan compounds for use in nutritional, pharmaceutical, and dermatological applications.

Marinova is recognized globally for its commitment to innovation and the exceptional quality of its Maritech® fucoidan extracts. The company is a GMP-, ISO9001-, and HACCP-accredited manufacturer and the world’s only producer of high-purity, certified-organic fucoidan with global regulatory approval. Marinova exports its fucoidan extracts to more than 25 countries and is the leading supplier of fucoidan to the nutritional and pharmaceutical sectors.

**The Science**

Fucoidans are complex polysaccharides that occur naturally in brown seaweeds where they function to protect the plant from waterborne pathogens and other environmental challenges. Each species of seaweed contains a unique fucoidan compound with distinct physical and chemical properties. Understanding these properties and their impact on functionality and bioavailability has established Marinova at the forefront of fucoidan science.

**The Key – Maritech® Extraction Technology**

Whilst other manufacturers have traditionally extracted fucoidan with organic solvents that degrade the natural compound and reduce bioactivity, Marinova has developed the unique Maritech® extraction process. This proprietary process uses advanced filtration technologies to separate and purify fucoidan without the use of harsh solvents. Aqueous technology, and the exceptional quality of the seaweeds, has established Marinova as the only producer of certified-organic, high-purity fucoidan with global regulatory acceptance, including FDA-notified GRAS.

**Maritech® Fucoidan Product Range**

The Maritech® product range includes unique, high-purity extracts from selected macroalgae supported by extensive clinical research. The range includes ingredients that have demonstrated efficacy in the following indications and clinical settings:

- Immune support
- Gut and digestive health
- Viral inhibition
- Inflammatory modulation
- Sports performance and recovery
- Stem cell mobilization
- Integrative oncology

**Corporate Headquarters**

Marinova Pty Ltd
249 Kennedy Dr.
Cambridge, Hobart, Tasmania 7170
Australia

Tel: +61 3 6248 5800
Fax: +61 3 6248 4062
Web Site: www.marinova.com.au
Email: info@marinova.com.au

**Key Personnel**

Paul Garrott,
CEO & Managing Director

Kevin Krail,
Business Development Manager

Krutika Sen,
Business Affairs Manager
Increase the credibility of your product with fucoidan

MarineTech

Organic Fucoidan

Pure Source, Pure Science

Marinova sources only certified organic, wild grown seaweeds, sustainably harvested from the world’s most pristine ocean waters. MarineTech® fucoidans are extracted using a proprietary solvent-free process underpinned by green chemistry principles that retains the natural bioactivity of fucoidan.

- Natural fully traceable ingredient made in Australia
- Easily formulated
- Free from additives, preservatives and allergens
- Global regulatory acceptance; GRAS (USA), TGA (AUS), Novel Foods (EU) and NHP (Canada)

MARINOVA PTY LTD
249 Kennedy Drive, Cambridge TAS 7170 Australia
P +61 3 6248 5800 F +61 3 6248 4062
info@marinova.com.au www.marinova.com.au
Metabolic Technologies, Inc.
Dedicated to Research. Committed to Your Health.

Description
Metabolic Technologies, Inc. is a research-driven company dedicated to the development of credible, safe, and effective nutritional products such as the myHMB® line of muscle health products.

Through every aspect of our company, we assure that our products meet or exceed the highest industry standards by ensuring all ingredients are backed by research and tested at top institutions.

Products
MyHMB® delivers exactly what the body’s working muscles need – HMB. HMB is scientifically known as beta-hydroxy beta-methylbutyrate and is produced naturally in our bodies during the metabolism of the essential amino acid leucine.

Leucine is found in virtually all protein – we eat it every day in foods like soybeans, beef, alfalfa and fish, and some proteins have more leucine than others. However, it is difficult if not impossible to consume enough protein alone to achieve the effective amount of HMB. With myHMB®, you can get the muscle-building power of HMB directly – allowing you to achieve optimal muscle health and live better.

MTI’s research studies have furthered development of the HMB product line, and our innovative research resulted in a new delivery form of HMB, HMB free acid (branded as myHMB® Clear and BetaTOR®). Published studies on HMB free acid have shown that this new delivery form is safe and has numerous benefits such as a quicker delivery to the body resulting in enhanced efficacy.

With this innovative delivery form of HMB, MTI collaborated with TSI Group Ltd. to co-develop a new sports nutrition product myHMB® + PEAK ATP®. This powerful combination was awarded the 2015 NutraIngredients Sport and Energy Finished Product of the Year award. Research has shown that myHMB® + PEAK ATP® has a powerful, synergistic benefit on performance gains.

Metabolic Technologies also exclusively holds the patent to the newest formulation, myHMB® + Vitamin D. While the positive effects of HMB on muscle health are well known, it has only recently become apparent that another nutrient, Vitamin D, is also essential in helping muscles reach their full functional potential. Continuing research is showing that together these ingredients are essential to optimizing muscle health and function.

For more information on Metabolic Technologies products, please visit www.myhmb.com and www.betator.com.
Muscles, Meet myHMB®.

There are over 600 muscles in the human body that are responsible for all movement and support of daily activities. For people of all ages and activity levels - muscle is critical for overall health and well-being.

Supplementing with myHMB® has been shown to prevent muscle loss, increase strength and improve body composition.

Proven benefits for:

- Body Composition
- Active Lifestyles
- Healthy Aging
- Sports Performance

Aging adults, dieters and active individuals have used HMB for decades as a highly effective supplement for improving muscle health - keeping us strong, mobile, active and independent.

When it comes to preventing muscle loss and maintaining optimal muscle health, nothing compares to myHMB®. Learn more at www.myhmb.com

TSI Group Ltd. and Metabolic Technologies, Inc. believe in the power of synergy which is why we have combined expertise to create the highest quality, clinically substantiated, nutritional products that maximize and maintain active, healthy lifestyles for consumers. These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Mineral Logic was established in 1997 to mine (harvest) and manufacture a concentrated form of fulvic micronutrients for the health supplement industry. Our proprietary RO water extraction process preserves the co-resident organic acids, amino acids, antioxidants, electrolytes, essential trace elements, and minerals resulting in a very concentrated, highly stable, and biodiverse molecular product.

Derived from one of the world’s rare prehistoric humate deposits of both marine and freshwater organic matter in the United States rich in polyphenol flavonoids.

Manufacturing

Services
Specialized formulations and product enhancement development.

Products and Features
The MLG-50™ family of products:
- Fine grain powders, concentrated liquids plus an alkaline version
- 100% soluble in wide pH range
- Pleasant taste and aroma
- Product stability and consistency
- We own the source mine
- USA harvested and produced
- 2-4 weeks lead time
- Bulk and quantity pricing

Clients Served
Nutraceutical industry – probiotics, food enzymes, prebiotics, herbal, multivitamin and mineral supplements, beverages, sports nutrition and recovery supplements.
LOOKING FOR FULVIC?

MLG-50™ is an incomparable source of fulvic from a pristine prehistoric deposit in the United States. Manufactured by Mineral Logic with 22 years of experience formulating specifically for nutraceutical, functional food and skin care products.

MLG-50™ is a known biostimulant that enhances dietary supplements by chelating essential nutrients for better absorption and function.

MLG-50™ IS:
• Plant-origin trace minerals
• Flavonoids
• Phenolic acids
• Polyphenols
• Antioxidants
• Poly-electrolytes

MLG-50™ IS NOT:
It is not lignite
It is not leonardite
It is not coal
It is not Shilajit
It is not toxic
For more than 30 years, MORRE-TEC Industries, Inc. (MTI) has been led by owner and founder, Leonard Glass. MORRE-TEC Industries, Inc. is a cGMP operating company with an FDA registered and inspected facility. The company is an ISO 9001-2015 certified manufacturer and distributor of unique products for the personal care, food, functional and nutritional, pharmaceutical and biotech industries. MORRE-TEC continues to experience rapid growth through increased market presence and acquisitions. It is completing its Food Safety Compliance Program and Certification in 2019.

What started as an exclusive distributorship of Bromine based compounds has expanded into natural products for personal care in 2000. Then in 2015, MTI acquired Vitacyclix, a Yonkers, NY based company known for its innovative manufacture of quality water soluble vitamins (A & D), nutrients and bioflavonoids for fortification.

It should also be mentioned that MTI produces and markets finely micronized powders using patented Vortex technology. These include calcium phosphates, micronized phytosterols, creatine monohydrate and other customized materials.
Nammex

Description
Nammex is an applied mycology company that specializes in the research, development, and production of medicinal mushroom ingredients for the nutraceutical, functional food, and nutritional supplement industries. We have been growing mushrooms since 1973 and have maintained Organic Certification since 1993. Our products are Kosher certified, non-GMO, gluten free, and vegetarian friendly.

Deep in the mountains of China, home to 85% of the world’s mushrooms, Nammex cultivates mushrooms the way nature intended: using natural substrates, sunlight, and fresh air amidst seasonal temperatures and humidity. We have worked for over 20 years with our Chinese partners to produce products in a sustainable manner—without the use of agricultural chemicals. This has allowed us to reach a quality standard that few other companies can meet.

All of our mushroom extracts are tested for beta-D-glucan, the most important and defining active compound in mushrooms. We also test for ergosterol, triterpenoids, and adulterants like starch. Our Nammex Testing Protocol™ is becoming an industry standard and is your guarantee of pure, highly active organic mushroom products in a fine powder form.

Products
Our key species are reishi, shiitake, maitake, and cordyceps. We also have lion’s mane, turkey tail, and chaga. The newest Nammex product breakthrough is *Cordyceps militaris* mushroom extract. Unlike commonplace mycelium products, *Cordyceps militaris* is derived from genuine mushroom fruiting bodies.

Corporate Headquarters
Nammex
926 Joe Rd., Box 1780
Gibsons, BC V0N1V0, Canada

Tel: 604/886-7799
Fax: 604/648-8954
Web Site: www.nammex.com
E-mail: info@nammex.com

Locations of Other Offices and Facilities
Exeter, CA, USA
Montreal, QC, Canada

Key Personnel
Jeff Chilton, President
Pat (Lp) Camozzi, VP Sales & Marketing
Carmen Jorgensen, Sales and Support
Skye Chilton, Product Development

Now these are mushrooms!

Naturally grown.
Botanically pure.

Real herbs are grown in rich soil with sunshine, water and good intentions. Nammex mushrooms are cultivated on native wood in greenhouses full of fresh air and natural light, by farmers with centuries of mushroom growing expertise.

Real mushrooms mean real herbal benefits.

www.nammex.com/naturally
Description

MISSION: To bring scientifically proven Ayurvedic products to the dietary supplement, personal care, food and beverage, and medical food industries worldwide.

HISTORY: Ayurveda means “Science of Life,” and it has been the traditional practice of medicine in India since 3500 BC. There are nearly 1500 herbal products in this system of medicine. Ayurvedic products did not gain much recognition in the western world until recently because these products have been made in the traditional way described in Ayurveda without any scientific standardization, safety studies, and clinical evidence. Natreon Inc. was founded by pharmaceutical scientists to bring Ayurveda to prominence in the world by using a scientific approach.

Natreon Inc. is an 18-year-old company located in New Jersey with a state-of-the-art R&D facility in Kolkata, India, and is focused on developing and marketing Ayurvedic products backed by extensive research, high degree of standardization, multiple clinical studies, safety studies, and intellectual property.

R&D TEAM: Professor Shibnath Ghosal, a Fulbright scholar and an eminent natural product chemist with hundreds of publications in scientific journals, leads Natreon’s R&D team comprising a group of scientists at the PhD and Master’s level. Natreon’s scientific research includes process optimization; development of chromatographic analytical methods such as HPLC, HPTLC, GC-MS, and LC-MS for standardization; development of marker compounds; and pharmacological studies. Safety studies are done in the USA, and clinical studies are conducted in reputed institutes in India as well as the USA.

Product Portfolio

Sensoril®
Ashwagandha extract (Withania somnifera)

Capros®
Amla (Phyllanthus emblica)

PrimaVie®
Purified Shilajit

Crominex®3+
Trivalent Chromium

AyuFlex®
Terminalia chebula

Ayuric®
Terminalia bellerica

Indication

Stress & Cognition

Cardiovascular Health

Energy/Male Sexual Well-Being/Anti-Aging

Blood Glucose Management

Joint Health

Healthy Uric Acid Levels
KEEP CALM AND SENSORIL®

Standardized to 3 proven bioactives, Sensoril® is the first holistic ashwagandha extract.

Only one Ashwagandha extract uses traditional Ayurvedic wisdom to combine root and leaf from the *Withania somnifera* plant for a patented combination that delivers three beneficial bioactives—Withanolide glycosides, Withaferin A, and Oligosaccharides—for enhanced wellness. Formulate your next successful supplement, food or beverage with clinically proven and patented Sensoril Ashwagandha.

Contact Natreon directly and we’ll help you reach your zen.
Learn about Sensoril at natreoninc.com

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.*
About SR CarnoSyn®
Are you keeping up with your customer? Your customers want to live their best life. So introduce them to new SR CarnoSyn®, a patented, sustained-release version of beta-alanine, the latest scientific breakthrough in healthy aging and everyday wellness.

By promoting the natural antioxidant carnosine, SR CarnoSyn® provides five vital benefits in one simple ingredient:

- **Brain function:** Carnosine is a powerful antioxidant. Its strong anti-glycation ability may protect the brain and has been shown to support cognitive function and mental acuity. It may also decrease occasional anxiety, support memory, delay mental fatigue, speed up executive function, and increase focus.*

- **Muscle fitness:** Carnosine promotes muscle mass and function. This is vital to supporting our frame, aiding balance, and maintaining strength for everyday activity.*

- **Heart health:** Carnosine helps regulate muscle contractions and prevent lipid oxidation in the bloodstream. It also supports healthy circulation and already-healthy blood pressure levels through vasodilation.*

- **Strong bones:** Carnosine benefits bone and joint health through its anti-glycation action. Carnosine may contribute to overall skeletal integrity by directly protecting bone structure and supporting muscle function.*

- **Overall systemic protection:** Carnosine chelates heavy metals, supports blood sugar levels already in the healthy range, regulates immune system response, and acts as an anti-inflammatory factor. Its antioxidant properties also protect against free radicals throughout the body.*

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

**Stay one step ahead of trends with SR CarnoSyn®**
Consumers are more focused than ever on health and wellness. As they reach middle age, they seek new solutions to stay healthy and active. SR CarnoSyn® has been extensively clinically researched and shown to be both safe and effective for the healthy aging market. See why SR CarnoSyn® is the next big thing by visiting http://www.srcarnosyn.com.
Are you keeping up with your customer?

They want to live their best life—at any age. So introduce them to SR CarnoSyn® beta-alanine, the latest breakthrough in healthy aging and everyday wellness. It’s clinically proven to deliver five vital benefits in one simple supplement.*

Available in tablet or powder form.

FIVE HEALTHY AGING BENEFITS IN ONE*

- BRAIN
- MUSCLE
- HEART
- SYSTEM
- BONE

*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

Read the science at SRCarnoSyn.com
Natural Remedies

Description
Natural Remedies is a global, research-driven botanical healthcare company whose core competency lies in manufacturing standardized herbal extracts. Its vision is to harness nature and apply science for health and happiness. Natural Remedies’ branded products are clinically substantiated and scientifically validated innovations. Known as a leader in standardized botanical extracts, Natural Remedies has contributed to various international pharmacopoeias, including more than 100 monographs and over 220 phytochemicals isolated for global reference standards.

Its branded extracts include Turmacin® (Joint & Cartilage Health), GutGard® (Digestive Health), BacoMind® (Brain Health), AP-Bio® (Immune Health), and OciBest® (Stress Management), which are backed by clinical trials published in reputed journals.

Natural Remedies Branded Extracts portfolio:

Turmacin®
Turmacin® is an innovative clinically researched ingredient that brings the joint and cartilage health benefits of turmeric to dietary supplements. Featuring water-soluble Turmerosaccharides™, our patented, bioactive polysaccharide, Turmacin® is the clean-label, natural way to add joint- and cartilage-support functionality to your formulation.

Health benefits: Helps maintain healthy joint function, or supports joint health

BacoMind®
BacoMind® is a patented, clinically tested ‘memory and cognition enhancing’ standardized phytochemical composition containing a unique full-spectrum extract with 9 different bio-actives derived from Bacopa monnieri. BacoMind® is the first brand of bacopa extract to receive GRAS.

Health Benefits: Helps improve learning, memory, and attention in children and adults

GutGard®
GutGard® is clinically researched to alleviate the symptoms of occasional heartburn and indigestion, including gas and fullness. Derived as a patented, flavonoid-rich extract of licorice root, this low-dose, innovative DGL is flexible enough for a variety of formulation needs.

Health Benefits: Helps manage occasional indigestion including fullness, gas, and occasional heartburn.

OciBest®
OciBest® is a clinically tested standardized herbal composition derived from Ocimum tenuiflorum to support stress management. It is phytochemically standardized to ociglycoside-I (>0.1% w/w), rosmarinic acid (>0.2% w/w), and triterpene acids (>2.5% w/w).

Health Benefits: Supports stress management naturally.

AP-Bio®
AP-Bio® is a clinically tested phytochemical composition derived from Andrographis paniculata, a widely used plant in Ayurveda. AP-Bio® is standardized to andrographolide and other diterpene lactones.

Health benefits: Supports immune function

Visit www.naturalremedy.com or write to hhp@naturalremedy.com for more details.
A 50-year legacy
of bringing nature’s goodness to the world

We combine traditional wisdom with modern science to aid in your quest for wellness.

Learn more about our innovative products.

BacoMind | Turmacin™ | GutGard® | AP-Bio | OciBest™

hhp@naturalremedy.com | www.naturalremedy.com

This is a business to business communication material and the statements used here have not been evaluated by any regulatory authorities. The ingredients mentioned here are not intended to diagnose, treat, cure, or prevent any disease. © 2019 Natural Remedies. All Rights Reserved.
Nature*4*Science Inc.

Description
Nature*4*Science, Inc. was founded in 2002 as a distributor and strategic partner to herbal and unique nutraceutical ingredients manufacturers, including, but not limited to, New-Gar®: the leading nutraceutical/pharmaceutical garlic in the industry, Saffron Extract 2% Safranal and 2.5% Crocin (Zaffronel®) the new and highly in-demand extract according to the latest industry reports, Cetyl Myristoleate complex 20% cetyl (CMO20®) and other ingredients.

Nature*4*Science, Inc. philosophy is to provide the highest quality products coupled with a superior customer service. To accomplish that mission, Nature*4*Science has partnered with the growers and the manufacturers. All Nature*4*Science products are planted, grown, harvested, and processed based on specifications set by N4S technical and management departments. All products are tested in-house using USP/NF updated methods and recorded on the Certificate of Analysis.

By Dec 2008, Nature*4*Science had achieved accelerated growth by becoming the #1 US nutraceutical garlic supplier in the industry with a worldwide recognition, and a highly respected reputation. N4S sales team covers a large number of customers ranging from distributors, retail manufacturers, to multi-level marketers. Nature*4*Science success is attributed to those loyal and satisfied customers.

For more info about Nature*4*Science products and services, please contact us at: info@nature4science.com or check our website: www.nature4science.com
ZAFFRONEL®
Saffron Extract 2% Safranal and 2.5% Crocin

Recent research and clinical studies on saffron’s antidepressant properties suggest that two components of saffron, crocin and safranal may help inhibit re-uptake of dopamine, norepinephrine and serotonin, naturally occurring chemicals involved in regulating mood. By enhancing the brain’s neurological functions, saffron promotes emotional balance and feelings of well being.**

Only 30 mg a day of saffron (Crocus Sativus L) extract 2% safranal may help to improve your mood and promote a state of relaxation.**

**These statements have not been evaluated by the Food and Drug Administration and are not intended to diagnose, treat, cure, mitigate or prevent any disease.

ZAFFRONEL® our Saffron Extract 2% Safranal and over 2.5% Crocin is grown and manufactured in Spain exclusively for Nature4Science Inc. Zaffronel® is manufactured in a GMP Certified facility and inventory is available in California.

For more information call 714-223-0647, email us at info@nature4science.com, or visit our website

WWW.NATURE4SCIENCE.COM

SAFFRON’S PHYTOCHEMICAL COMPOSITION

PICROCROCIN:
Eupletic and appetizing properties**

CROCIN AND CROCETIN:
Powerful antioxidants for cardiovascular and eye health**

SAFRANAL:
Beneficial antidepressant and sedative properties**

Nature *4* Science
Where Nature & Science Meet
HOME OF NEW-GAR® GARLIC AND OTHER FINE INGREDIENTS
NP Nutra

Description
For over twenty years, NP Nutra® has supplied their customers with pure, potent nutraceutical ingredients, sustainably-sourced and produced at our manufacturing partner facilities throughout the world.

Triple-T Verification®, our own supply chain validation program, involved over five years of extensive research and close collaboration with approved partners. Launched in September 2017, the Program has greatly increased customer confidence in the quality of our products and services.

NP Nutra’s goal is to continue to build strong customer relationships, offering premium products with outstanding customer service and ongoing support.

Our renowned line of wholesale ingredients include:

- Popular superfruits, including Acai, Goji, Pomegranate
- High-potency antioxidants
- Botanical extracts and herbs
- Certified Organic and Kosher products
- Hard-to-find ingredients

Major Markets
For over twenty years, NP Nutra® has supplied their customers with pure, potent nutraceutical ingredients, sustainably-sourced and produced at our manufacturing partner facilities throughout the world.

Triple-T Verification®, our own supply chain validation program, involved over five years of extensive research and close collaboration with approved partners. Launched in September 2017, the Program has greatly increased customer confidence in the quality of our products and services.

NP Nutra’s goal is to continue to build strong customer relationships, offering premium products with outstanding customer service and ongoing support.

Our renowned line of wholesale ingredients include:

- Popular superfruits, including Acai, Goji, Pomegranate
- High-potency antioxidants
- Botanical extracts and herbs
- Certified Organic and Kosher products
- Hard-to-find ingredients

Major Products
Superfruits: Acai, Acerola, Baobab, Blueberry, Coconut, Cranberry, Goji, Mangosteen, Maqui, Pomegranate, Schisandra, Yacon
Supergreens: Alfalfa, Barley Grass, Chlorella, Kelp, Spirulina, Wheatgrass
Botanical Extracts: Astragalus, Ginger, Noni

Specialized Services
Formulation Development

Signature Ingredients
AçaiVida® – Acai Juice Powder rich in Omega’s, amino acids & anthocyanins
BettaBerries™ Antioxidant Blend – proprietary blend of the world’s most phytonutrient-rich Berries
CocOganic® – Organic Freeze-dried Coconut Powder
CocOganic Plus® – Organic Highly soluble Freeze-dried Coconut Powder
Green Balance Alkalizing Blend® – A synergistic alkaline superfood blend
MacaXtra® – Concentrated 100% Organic Maca Root Powder
MangosteenRoyale™ – Whole Fruit Standardized 10:1 Mangosteen Extract
MaquiForza™ – High quality Freeze-dried Organic Maqui Berry
NutraGrass™ – Premium Concentrated Wheatgrass Powder
NutraBrain™ – Brain-boosting Ayurvedic blend
NutraLiver™ – Liver-enhancing Ayurvedic blend
NutraProtein Power Blend® – Specially-formulated organic plant-based blend
SachaOmega® – highest grade Organic, cold-pressed extra virgin Sacha Inchi Oil
SachiPlus™ Complete Protein – Organic Sacha Inchi Protein blend
XandraPure™ – Organic water-soluble Schisandra Extract

Leading the world in Nutraceuticals
NSF International

Description
NSF International is an independent and accredited non-governmental organization whose mission is to protect and improve global human health. We do this by facilitating the development of public health and safety standards through our Standards group, and by testing and certifying products and systems to those standards through our service groups.

Certified products and systems earn the NSF mark, which is respected by consumers, manufacturers, retailers and regulatory agencies. Deeply rooted in science, we are widely recognized as the "gold standard" for quality in such areas as water systems, food safety and health sciences including dietary supplements.

NSF offers a comprehensive range of services to meet the needs of the dietary supplements industry globally. Our role is to ensure product and ingredient safety, giving both industry and consumers peace of mind through facility GMP compliance, product certification programs testing services, consulting and training.

NSF’s Good Manufacturing Practice (GMP) registration assures companies are following a system of processes, procedures and documentation to ensure the product manufactured has the identity, strength, composition, quality and purity that appear on the product label.

NSF International maintains and helped to facilitate the development of NSF/ANSI 173, the nation’s first truly independent testing standard and product certification program strictly for dietary supplements, NSF/ANSI 173 and also tests and certifies products to this standard. Certification includes a toxicology and label review to verify product formulation and marketing claims, testing to identify and quantify dietary ingredients declared on the product label, testing to ensure the product does not contain unacceptable levels of contaminants, and twice annual GMP facility inspections. NSF has testing facilities for dietary supplements and ingredients in the U.S., China and Germany.

The NSF Certified for Sport® program builds on NSF dietary supplement certification by additionally screening for over 270 athletic banned substances to ensure the product is free of substances on the WADA, NFL and MLB prohibited substances lists.
DON’T GAMBLE WITH YOUR FACILITIES’ COMPLIANCE!

NSF INTERNATIONAL: OFFICIAL GMP TRAINING PARTNER FOR SUPPLYSIDE WEST 2019

> 21 CFR 111 GMP Overview
> Food Safety Modernization Act (FSMA)
> Batch Production Records Do’s & Don’ts
> Dietary Supplement Claim Substantiation
> Botanical Testing
> Vendor Qualification and Audit Training
> Dietary Supplement Label Claim Compliance

Early bird pricing ends soon so register today!
Email: dstraining@nsf.org | NSF booth 3629!
Nutralliance Inc.

Description
Nutralliance is a supplier of premium ingredients to the food, pet, nutritional and personal care industries. Our company prides itself in the ability to cater to our customer’s specific needs while maintaining our focus on integrity, honesty and the commitment to high quality product standards. We always deliver at a competitive price and in a timely manner.

Incorporated in 2002, Nutralliance is owned and operated by Brian Salerno, a veteran of the nutritional industry since 1989. The addition of another industry veteran, Michael Sodaro, in 2011 further strengthened our position in the industry with his extensive knowledge of the natural vitamin E and natural carotenoid markets. In 2016 Steve O’Brien was brought on as our technical director to further improve our supply chain and in 2019 we have expanded into new territories with our newest team member Michael Hinkley. Hinkley will be the business development manager in charge of the rapidly growing probiotic market.

Exclusive Representatives
Proudly announcing our newest partnership with Ildong Bioscience. Ildong is a comprehensive bio corporation with patented quadruple coating technology for a broad line of probiotics. A South Korean elite organization focused on their contribution to the health and happiness of mankind, Ildong will further strengthen the Nutralliance product line and introduce incredible technology into the US market.

Advanced Organic Materials (AOM) is an Argentine company dedicated to the extraction and purification of natural ingredients. Serving over 15 countries worldwide, AOM is well established as a leading player in the industry.

Bio-gen Extracts Pvt. Ltd., India was established in 2000 and is a GMP Certified company that specializes in the manufacture of nutraceutical raw materials and leader in the production of natural carotenoids.

Branded Products: SunE900™ Natural Vitamin E from Sunflower, Sunvitol™ Natural Vitamin E Powder, Sovitol™ Natural Mixed Tocopherol Powder, RavEtol™ 30P Natural, Non-Soy, Non-GMO Mixed Tocopherol Powder, Sunvolec™ Sunflower Lecithin, Sunvasterol™ 90 Phytosterols from Sunflower, CocoTrim™ MCT, BetaCaro-gen™ Natural Beta Carotene, Lute-gen™ Natural Lutein Beadlets, Ultra Caro-gen™ Natural Mixed Carotenoids

Newest Major Product Addition to Our Line: Quadruple Coated Probiotics

Other Major Products: Agave Inulin, Glucosamines, Gluconates, Fruit and Vegetable Powders, Organic B12, Calcium Citrate, Spirulina, Vitamin E Acetate and Hyaluronic Acid.

Stability Enhanced Probiotics Using Quadruple-Coated Technology
Patented Quadruple-Coated

Lactobacillus | Bifidobacterium | Bacillus
Single Strain to Multi-Strain Probiotic Blends
Nutrition 21 LLC

INNOVATIVE INGREDIENTS. REAL RESULTS.

Nutrition 21 offers unique and functional ingredients that address a range of health conditions and help support overall health and wellness.

Backed by significant clinical work, our products are protected by multiple patents and manufactured to the highest standards of purity. We continue to add new ingredients and products through internal discovery and partnering with innovative organizations throughout the world.

Nutrition 21 LLC has a longstanding reputation as a leading developer and marketer of clinically substantiated, efficacious, and high-value ingredients. Nutrition 21’s branded ingredients are used in dietary supplements, functional foods, and nutritional bars and beverages.

**Nitrosigine®,** a patented complex of arginine and silicon, can help performance with unique benefits important to the training athlete. Pre-clinical and clinical studies support the use of Nitrosigine as a highly bioavailable source of arginine and silicon, and it is scientifically engineered to last up to six hours. Nitrosigine can take your product to the next level and enhance performance by promoting blood flow and by increasing focus and energy.

**Velositol®** is a patented amylopectin chromium complex with unique benefits when added to protein products. In a single dose, Velositol is clinically shown to double muscle protein synthesis when added to whey protein versus whey protein alone—a key to both muscle growth and muscle recovery.

**Chromax®** chromium picolinate is supported by more than 50 clinical studies involving 2,300-plus human subjects. Chromax is also affirmed GRAS for doses up to 2000 mcg chromium per day, has 35 non-rejected DSHEA claims, and has more than 20 active and pending composition and use patents. Several clinical studies have shown that Chromax is significantly better absorbed than other forms of dietary chromium. Chromax is a perfect nutrient to formulate into products positioned to address glucose metabolism, cognitive function, and weight management including food cravings, mood, and lean body mass.

Check Out What’s New at Nutrition 21:

**Lepidamax®** is Nutrition 21’s novel, proprietary blend of *Lepidium peruvianum,* which has been linked to beneficial endpoints focused on enhancing Male Performance specifically as it relates to energy production, grip strength, and sexual function. In developing Lepidamax, Nutrition 21 discovered a novel, proprietary formulation of Peruvian maca phenotypes that provides superior efficacy in improving various areas of Male Performance, as compared to other maca products on the market.

**noolVL™** is a patented, non-stimulant nutritional ingredient that boosts cognitive performance and energy in eSports athletes. This ingredient comprises two components: Bonded Arginine Silicate combined with an additional dose of inositol. Found at high levels in the brain, inositol is an essential carbohydrate known for its important role in brain health and function.

References

1. N21 Data on File 2016
Chromax® from Nutrition 21—Not all chromium is the same.

- Prop 65 compliance independently verified
- Significant improvement in body composition
- Significant reduction in carbohydrate cravings and appetite
- Significant reduction in caloric intake

More than 2x reduction in carbohydrate cravings and 1.8x reduction in appetite vs. placebo

Improvement in Reduction of Symptom Scores

<table>
<thead>
<tr>
<th></th>
<th>Appetite</th>
<th>Eating</th>
<th>Carbohydrate Craving</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAM-D Item Scores</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Chromax® dosed at 600 mcg chromium per day</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Placebo</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Average caloric intake reduced by 374 calories per day

Baseline Kcal/day, Chromax® = 1,500, Placebo = 1,800; Chromax® dosed at 1000 mcg chromium per day

Learn more at Nutrition21.com or email info@nutrition21.com.

Additional claims available supporting:

Energy • Mood • Metabolism • Cognition • Lean Body Mass

*Proposition 65 compliance independently verified for arsenic, cadmium, hexavalent chromium, lead, and mercury levels.

1 In subjects with atypical depression and high carbohydrate cravings. ** In healthy, overweight, adult women with carbohydrate cravings.


*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
**Description**

Since 2007, Orgenetics, Inc. has been changing the world of vitamins with the introduction of Orgen® brand ingredients as well as our clean, transparent, sustainable, and vertically integrated supply chain.

These are 100% USDA Certified Organic & All Natural vitamins/minerals/anti-oxidants, all water extracted from Organic fruits & vegetables. We were the first ones to innovate and introduce the concept of Organic and natural plant based vitamins, and continue that innovation today.

With full vertical integration by partnering with Green Chem in India, we are able to closely monitor the ingredients we supply, right down to which farm the fruit or vegetable was grown. Our stringent QA and QC controls ensure that our quality is guaranteed for all lots. As consumers worldwide rapidly shift away from synthetics, now is the time more than ever to use Orgen® brand ingredients in your formulations.

**Products:** Orgen® brand ingredients are 100% USDA Certified Organic & All Natural vitamins/minerals/anti-oxidants.

These are water extracted, meaning no synthetic solvents, excipients, carriers, or filler material is used. That also means that naturally occurring co-factors & co-nutrients of the Organic fruits and vegetables are preserved, which we believe allows for better regulated absorption into the body, as well as better efficacy of the vitamins/minerals.

Many of these ingredients are also GRAS Self-Affirmed, expanding usage opportunities into many different areas like foods and beverages.

**Clients Served:** We are proud to say that after a decade, we have expanded our supply and operations across the North and South American, European, Asian, and Australian markets - helping consumers around the world receive the healthy benefits of Organic & Natural plant based vitamins/minerals.
Established in 1987, Overnight Labels, Inc. is an award-winning label and flexible packaging printing company. We provide a multi-tiered approach to your packaging needs – from prototypes and preproduction samples, to digital printing for smaller volumes and large production runs.

We have experience in a wide range of markets, including nutraceuticals and sports nutrition. Our expertise includes embossing, rotary silkscreening, seamless cylinders, cold foil and other specialty varnishes and coatings.

We have very high standards and only use the best domestically sourced materials that are ISO compliant. We are proud to be a Blue Level Graphic Measures International (GMI) printer for Walgreens and CVS. Environmentally, we are a certified member of the Sustainable Green Printing Partnership (SGP).

With 14 presses, we have the capabilities to work with any size company. In addition to exceptional quality, we are best known for our low set up costs/minimum quantities, competitive pricing, and as our name implies... quick turn-arounds!

**PRODUCTS**

- Pressure Sensitive labels, including IRC Coupons and Peel-back
- Shrink Sleeves and Tamper Evident Neck Bands
- Flexible Films for bags, sachets, pouches, stick packs and sample packets

**COMPANY INFORMATION**

151-15 West Industry Court
Deer Park, NY 11729
800-472-5753
631.242.4240 / Fax 631.242.4385
info@overnightlabels.com
www.overnightlabels.com

**KEY PERSONNEL**

Don Earl: donearl@overnightlabels.com
Miranda Messina: miranda@overnightlabels.com

800.472.5753 • www.overnightlabels.com
For your FREE SAMPLE KIT email: samples@overnightlabels.com
PAT Vitamins Inc.

Description
PAT Vitamins originated in 1995 and they are proud to be celebrating their 25th anniversary in the year 2020. With passion and dedication, PAT Vitamins continues to offer diverse products to the nutritional, personal care, feed, food & beverage industries. PAT Vitamins can be your trusted partner for high-quality raw ingredients. They specialize in providing products such as vitamins, amino acids, PROBIOTICS, and other specialty ingredients. PAT Vitamins continues to provide fully stocked warehouses across the US including NJ, KS, UT and their main office located in California. Over the past 20 years, PAT Vitamins has established close relationships with its original manufactures. With a comprehensive quality and risk assessment plan in place, PAT Vitamins sets the highest level of standards working with the most reputable manufacture’s and validates all regulatory qualifications. PAT Vitamins only works with manufactures that care about the consumers and can produce high-quality raw ingredients to enhance wellness and support their mission.

PAT Vitamins continues to work with many, but not limited to, the following manufactures:
- CSPC Weisheng Shijiazhuang Pharmaceutical
- Xinfa Pharmaceutical
- Zhejiang Garden Biochemical High-Tech Stock
- Zhejiang/Jiangxi Tianxin Pharmaceutical
- Jiangsu CONAT Biological Products
- Xiamen Kingdomway Company

PAT Vitamins Offers ingredients for different applications:
- Powder, Fine Powder, Ultra Fine Powder
- Cold Water Dispersible/Soluble
- Instant Powder
- Micro-Encapsulation Beadlets
- Direct Compressible
- Trituation Powder
- Spray Dried Powder
- Oils

PAT Vitamins continues to expand their product portfolio to meet your requirements and is excited to introduce their new product line of probiotics. They are proud to be working with the established, reputable and science-backed manufacture Jiangsu WEcare Biotechnology Co., Ltd. They offer over 3,000 strains, patented strains, and customized blends for your probiotic formula. As a leader in the supply chain industry, PAT Vitamins is proud to provide exceptional service to all of their customers.
Your Trusted Leader in Quality Raw Ingredients & Customer Satisfaction

PAT Vitamins has been supplying raw ingredients for nearly 25 years to the food, nutritional & beverage industries. We value fundamentals such as the importance of high quality products, customer service and target delivery times. Our knowledge and expertise continues to broaden our product portfolio to meet your application requirements.

Inquire about our new line of PROBIOTICS.

VITAMINS - AMINO ACIDS - SPECIALTY INGREDIENTS

Join us in 2020 for our 25th Anniversary

PAT Vitamins | 1751 Curtiss Ct, La Verne, CA 91750 | P: 626.810.8886 | F: 626.810.6601
E: info@patvitamins.com | www.patvitamins.com
Pharmore Ingredients Inc.
Your Trusted Source for Joint Care Ingredients

**About Us**
- Supplier of ingredients to human and animal nutrition industries
- Global sourcing expertise with overseas staff to support quality initiatives
- FSVP Importer of Record
- Compliant with current USFDA Food Safety regulations
- Staff with 100+ yrs of industry experience

**Accomplishments**
- Major importer of Joint Care Ingredients
- Supplier to many of today’s largest companies
- NASC Preferred Supplier since program inception
- Multiple Supplier of the Year awards
- Proud Members of CRN, UNPA, and NASC

**Commitment to Quality**
- FSMA and FSVP Compliant
- Certified Documentation
- On-site Audits with 3rd Party Testing
- In depth manufacturing knowledge
- PCQI Certified

**Corporate Headquarters**
Pharmore Ingredients Inc.
12569 S. 2700 W., Ste. 201
Riverton, UT 84065
Tel: 801/446-8188
Fax: 801/446-8187
Web Site: www.pharmore.com
E-mail: sales@pharmore.com

**Key Personnel**
Allen Gritton,
Director of Sales

Rhema Health Products Limited
An experienced dietary supplement manufacturer you can depend on!

Company Overview
With 30 years of experience, Rhema Health Products Limited offers a wide range of formulas. We have simplified the development process and created high-demand formulas using our finest quality ingredients to help you build your brand.

Our team of talented research and development individuals takes an integrated approach to ensure that your products are formulated with the latest innovations and manufactured to the highest industry standards.

We are GMP certified through NSF and NSF for Sport. The products are manufactured out of our Canadian facility and have the distinct advantage of a global reputation for exceptional quality and efficacious products. Additionally, we produce Certified Organic, Kosher, Halal products and maintain a robust allergen program that allows us to manufacture gluten-free and dairy free products.

We are fully equipped to manufacture a wide range of products in multiple dosage formats such as powders, capsules and tablets. We produce products for many categories such as nootropics, Keto, inflammation, digestion, stress and more! We have an undeniable reputation for being flavor specialists and are able to make difficult formulas taste great!

Corporate Headquarters
Rhema Health Products Limited
Unit 601 – 19055 Airport Way
Pitt Meadows, BC V3Y 0G4, Canada

Tel: 604.777.7234
Web Site: www.rhemamade.com
Email: carmined@rhemamade.com

Key Personnel
Carmine Di Giovanni
VP of Sales & Marketing

Greg Semkuley
Sales and Business Development Executive

Frank Wong
VP Product Development & Technical Services
Rochem International, Inc.

Your Bridge to Quality

Description
Rochem International was founded in 1994 by Ms. Robyn Frisch as an importer of chemical, nutritional and pharmaceutical raw materials of Chinese origin. Since that time, Rochem has grown to become a global leader in developing, sourcing and supplying ingredients to some of the world’s largest Nutritional, Dietary Supplement, Food, Beverage, Confectionery, Human Health and Animal Health companies in regulated markets.

Rochem has offices and warehouses throughout North America and Europe as well as a fully-staffed office in Qingdao, China. Rochem’s headquarters and main warehouse facility are located in Hauppauge, N.Y. As a result of having both the administrative office and main warehouse under one roof we have the ability to provide same day expedited shipments.

Our team encompasses a vast and diverse background including an elite sales force acquired from the top 500 global companies. Our unrivaled Regulatory and Compliance department assists in product development, auditing, filing DMFs and technical support. This collective experience helps us understand and exceed the needs of both our customers and manufacturers and helped grow Rochem into the renowned business that it is today. Our mission is to bridge the gap between China and regulated markets throughout the world. At Rochem, we’re proud that our company name is synonymous with quality, consistency, reliability and competitiveness around the world.

Corporate Headquarters
Rochem International, Inc.
45 Rasons Ct.
Hauppauge, NY 11788

Toll Free: 877-6-ROCHEM
Tel: 631/738-1188
Fax: 631/738-1199
Web Site: www.rochemintl.com
E-mail: sales@rochemintl.com

Key Personnel
Robyn Frisch, CEO
Matt Thiel, President
Michelle Welcher, Vice President, Nutritionals

NUTRITIONAL INGREDIENTS
VITAMINS & SWEETENERS
APIs – Rx – OTC – VET

EXPERT IN-HOUSE REGULATORY,
COMPLIANCE AND TECHNICAL SUPPORT

UNRIVALED SUPPLIER NETWORK

FULLY-STAFFED OFFICE IN CHINA FOR
SOURCING, AUDITING AND LOGISTICS

SUPERIOR BENCHMARK IN CUSTOMER SERVICE

Tel: 631-738-1188
www.rochemintl.com
sales@rochemintl.com
45 Rasons Ct. Hauppauge, NY 11788
Full Service Manufacturer

TOP TECHNOLOGY, RAPID FORMULATION TO FULFILLMENT, COMPETITIVE COSTS

We offer outstanding products, have some of the industry’s best researchers, scientists, doctors and sales and service professionals to best service you and your supplement needs.

1. HIGH VOLUME PRODUCTION CAPABILITIES
   - 15 Billion Softgels Annually
   - 10 Billion Capsules & Tablets Per Year
   - 33 MM Kilograms of Powder Production Per Year

2. INVESTMENT $50 MM EXPANSION
   - State-of-the-art Facility
   - Latest Technologies
   - Unrivaled Production Capacity Across All Dosage Forms

3. SCALABILITY MANPOWER AND EXPERTISE
   - Scalable Manufacturing
   - Manpower and Expertise
   - Agile Response to Customer Demands

4. QUALITY AT COMPETITIVE PRICES
   - Efficiencies and Economies
   - Competitive Pricing
   - Strict Adherence Product Specifications

5. DEADLINES MET DELIVERY DATES ARE KEPT BASED ON:
   - Capacity
   - Supply Chain Buying Power
   - In-House Packaging and Testing

robinsonpharma.com
(714) 241-0235 ext 1214

Robinson Pharma, Inc.
Private Label | Store Brand | Nutritional Manufacturing
Ruspak Contract Packaging Services

**Corporate Headquarters**
Ruspak Contract Packaging Services  
P.O. Box 29  
5 Manhattan St.  
Lyons, NY 14489-0029

Tel: 315/946-9777  
Fax: 315/946-9525  
Website: www.ruspak.com  
Email: tbrickle@ruspak.com

**Key Personnel**
Tim Brickle,  
President  
Paul Mierzwa,  
Vice President  
Andrew Brickle,  
Materials Manager

**Description**
Since 1959, the nutraceutical and dietary supplement industry has depended on Ruspak as its co-packing partner. Ruspak is noted for its flexibility, versatility, security, confidentiality, and on-time and on-budget delivery.

Many manufacturers rely on Ruspak as their exclusive packager. Others work with the company to supplement in-house capabilities or to test new packaging concepts. Customers work directly with one of three owners possessing more than 30 years of package experience, each with decision-making authority to make things happen quickly.

Ruspak has the automated capability to package tablets, capsules, liquid, gels, ointments, powders, or granules in blisters, pouches, or bottles. Ruspak’s secondary packaging capabilities include cartons, in-store displays, and shrinkwrapping for retail or promotional purposes. Whether turnkey packaging or customer-supplied material, Ruspak can provide the level of service you require.

**Co-Pack With Ruspak**
Join the growing number of companies that rely on us to safely package their products.

**Products**
We package nutraceuticals, dietary supplements, pharmaceuticals, food and cosmetics in Blister, Pouches, Bottles and Cartons.

**Secondary Packaging**
Our secondary packaging capabilities include cartons, in-store displays and shrink-wrapping for retail or promotional purposes.

**Facility**
Our facility is registered as a drug and device establishment by the U.S. Food and Drug Administration (FDA), and GFSI certified. The company’s cGMP trained staff follows a comprehensive set of protocols to ensure the safety and security of each package.

Contact us and learn why we’ve been the co-packer of choice since 1959.

**We package your products**
PO Box 29•Manhattan St•Lyons, NY 14489•315-946-9777  
sales@ruspak.com • ruspak.com
SaltWorks, Inc.
America’s Sea Salt Company®

**Corporate Headquarters**
SaltWorks, Inc.
16240 Woodinville Redmond Rd NE
Woodinville, WA 98072, USA

Toll-Free Number: 800/353-7258
Telephone: 425/885-7258
Fax: 425/650-9876
Website: www.seasalt.com
E-mail: info@seasalt.com

**Key Personnel**
Mark Zoske
CEO
Naomi Novotny
President

**Description**
As the leader of the gourmet salt industry, SaltWorks® is truly passionate about salt—from the purity of the water sources and harvesting practices to exclusive packaging and full-service shipping logistics. We work tirelessly to innovate processes and pioneer technologies to produce the highest quality natural salts possible.

SaltWorks’ custom-built facility is SQF Level 2 certified with an Excellent rating by NSF International®. All salts are kosher certified by the Orthodox Union® and are also non-GMO and allergen free.

Boasting an expansive selection of gourmet, smoked, flavored and finishing salts in a broad range of precise grain sizes suitable for any ingredient application, SaltWorks also offers custom solutions including all-natural anti-caking & non-PHO encapsulation.

SaltWorks salts are unrefined and free of chemicals or artificial additives, ensuring you are getting the most pristine salt ingredient possible. From small batch production to large volume projects, our all-natural salts are safe & ready for inclusion in food and supplement manufacturing, processing and more.

With our award-winning customer service, superior products and extensive capabilities, SaltWorks is the only salt supplier you will need. Guaranteed.
Description
Sabinsa, a manufacturer and ingredient supplier of herbal extracts, cosmeceuticals, probiotics, and specialty fine chemicals used in successful products worldwide, utilizes modern scientific methods to build upon traditional Ayurvedic knowledge to improve human health. In over thirty years, Sabinsa has brought to market more than 120 standardized botanical extracts and privately funded clinical studies in conjunction with prestigious institutions in support of these products. In concert with parent company Sami Labs, the company employs over 1,000 people worldwide in 12 manufacturing, R&D, sales and marketing, warehousing, and distribution facilities.

Major Products / Service Offerings
Sabinsa has pioneered numerous herbal ingredients in the nutraceuticals market, many of which are the leading branded ingredients in several condition-specific health categories. Sabinsa’s Curcumin C3 Complex® is the most clinically studied turmeric extract brand in the world. Other popular brands include: BioPerine®, LactoSpore®, Promond™, DigeZyme®, Silbinol®, Boswellin®, GarCitrin®, ZeaLutein®, For Lean®, and Bacopin®. Products intended for human consumption are certified Kosher and Halal.

Recent ingredient brand introductions include:

Livinol™ - a patented high-value hepatoprotective bioactive from Garcinia indica standardized to 20% garcinol

Nigellin™ Black Seed Extract – standardized to contain thymoquinone (TQ) and thymohydroquinone (THQ)

Shagandha™ Ashwaghandha Root Extract – correctly standardized to 2.5% withanolides per USP

Emphasis on developing and bringing to market products with scientific and clinical substantiation is Sabinsa’s core business philosophy and responsible for fueling the company’s ongoing commercial success. Sabinsa has obtained several IND approved clinical protocols for its products from the FDA and offers multiple with self-affirmed GRAS status.

With more than 120 scientists working full time conducting ongoing research both in India and the U.S., Sabinsa continues to develop and patent beneficial nutrients for the world market. Presently Sabinsa owns over 220 US & International patents and has over 100 pending patent applications worldwide.

In addition to providing science-backed ingredients, Sabinsa’s specialized services include custom product development, technical support and laboratory testing, assistance in clinical evaluation and protocol implementation. The Utah NSF GMP facility provides contract man-
Manufacturing services for bulk and packaged finished goods in various delivery formats such as capsules, tablets, and bi-layer tablets. They additionally offer intermediary services such as milling, blending, roll compaction, and granulation.

Focus on Sustainability
Sami-Sabinsa works with hundreds of small farmers on nearly 40,000 acres who grow significant amounts of high-quality raw materials for processing into branded, usually patented, ingredients. The company’s cultivation program began over a decade ago after severe weather extremes wiped out the entire harvest for an herb the company needed to supply a popular ingredient. Contracting directly with farmers throughout rural India for the herbs required to make some of their products assures stable supply. Along the way, they have virtually adopted villages, supported schools, and improved rural infrastructure. Through the years they have fine-tuned the program, providing seed to the farmers, training them to grow herbs sustainably and cleanly and guaranteeing a minimum purchase price no matter what Mother Nature throws at them.

Farmers are taught techniques to naturally deter insects such as by growing pest-repellent plants among the herbs and given irrigation support when rainfall doesn’t cooperate. When herb prices go up, Sami-Sabinsa pays more for the harvest than the contracted amount.

Reforestation was a logical next step in Sami-Sabinsa’s sustainability commitment. With a view to ex situ conservation of the highly valued but neglected tree species *Pterocarpus marsupium* (Indian Kino) two years ago the company initiated and funded a project that planted over 166,600 trees on 250 acres of forest land, which will be maintained over ten years into maturity. The award-winning program was recently expanded to encompass a larger area growing more seedlings.
SPORTS NUTRITION INGREDIENTS FROM SABINSA

Branded Ingredients by Sabinsa, accept no imitations. Sabinsa offers a range of sports nutrition ingredients, which caters to the needs of sports enthusiasts and professional athletes alike. Manage healthy body weight and increase lean body mass using clinically proven weight management ingredients like ForsLean®, GarCitrin® and LeanGard®.* Reach your peak performance using the isotonic freeze dried nourishment from coconut water, Cococin™.* Curcumin C3 Complex®, NiLitis® and our full spectrum Boswellin® PS manages healthy joints, which can take care of both your pre and post work out needs.* Improve your nutrition status with digestive aids such as DigeZyme® and LactoSpore®.*
PATENTS: US 7,300,682; EP1341547; US 8,247,003; AU2010326651; EA20368; EP2461786; NZ598630; US 9,579,352; AU2015308650; US 9,717,766; AU2011200854; CA 2732915; EA023717; TW I-434696; MX328842
Soft Gel Technologies Inc.
Delivering custom and branded softgels, naturally.™

Description
Soft Gel Technologies Inc.® specializes in providing premium-quality dietary supplements in a soft gelatin capsule delivery system. We are a full-service contract manufacturer dedicated to the production and marketing of branded products and custom turnkey formulations. We have earned many U.S. patents, most of which are for significant technological breakthroughs in the area of nutrient bioavailability. We obtained GMP certification through the NPA/UL and NSF, including NSF’s GMP for Sport™. We are Halal certified by the ISA and are an approved foreign manufacturer by Health Canada.

Services
- Custom formulation and contract manufacturing
- Developing production technologies that maximize a formula’s effectiveness
- Accommodating small production runs
- Scientific verification, supplier qualification, label-claim assurance, and raw-material disclosure
- Part of a global network of companies, with an international sales team

Products
- **CoQH-CF™**: A clinically proven antioxidant solution providing a stabilized and protected form of reduced CoQ10 (Kaneka Ubiquinol™) in a softgel using our crystal-free technology that demonstrates superior bioavailability
- **GlucoHelp®**: A banaba leaf extract, standardized to 18% corosolic acid, for blood glucose support
- **Injuv®** softgels: A naturally derived, low-molecular-weight hyaluronic acid complex for skin and joint health with proven absorption and bioavailability, promoting beauty from the inside out
- **Perluxan®** softgels: An all-natural botanical extract derived from hops resin used to support joint health, providing a safer approach to soothing aches from overexertion of everyday activities and effectively calming the body’s minor pain cascade
- **EZ Mega 3™**: An easy-to-swallow fish oil concentrate softgel capsule that is neutral in taste and contaminant-free, providing omega-3 essential fatty acids

Clients Served
Customer care shapes every department; it is of utmost importance for our customers to receive prompt and courteous service. We take the guesswork and liability out of the GMP responsibility equation by ensuring that our softgels contain the intended ingredients and are absent of contaminants. We embrace corporate transparency through our meticulous quality-assurance procedures, comprehensive QC testing, and recordkeeping/documentation on all products for traceability purposes.

Corporate Headquarters
Soft Gel Technologies Inc. (SGTI)
6982 Bandini Blvd.
Los Angeles, CA 90040
Toll-Free: 800-360-SGTI (7484)
Tel: 323/726-0700
Fax: 323/726-7065
Web Site: www.soft-gel.com
E-mail: sales@soft-gel.com

Locations of Other Offices and Facilities
Hauppauge, NY
Tel: 631/231-4900

Midvale, UT
Tel: 801/858-0361

Europe/Middle East Offices
E-mail: royb@soft-gel.com
Stryka Botanics

Description
Stryka Botanics takes pride in offering the highest-quality ingredients for the Nutraceutical, Functional Food, and Beverage industries for more than 25 years. As a leading supplier of nutritional ingredients, we have positioned ourselves to provide the quality material our customers demand. The industries we serve include:

* Pharmaceutical
* Contract Dietary Supplement
* Pet Food and Feed
* Private-Label Dietary Supplement
* Sports Nutrition
* Cosmetic

As the company has grown, we have made large investments in expanding our facility and in additional equipment, inventory, and personnel to serve our clients’ needs quickly. With East and West Coast locations, we can deliver the quality products you need in a timely manner.

Stryka Botanics has an extensive product list of over 2,000 different ingredients to fulfill your material requirements. From herbal powders, extracts (standardized and ratio), vitamins, and amino acids—including Kosher Certified products—we are truly a one-stop shop. We offer high-volume discounts!! Order size is never a problem. We can fill orders from the smallest quantity to the largest, and there is never a repack fee.

As a truly global organization, Stryka Botanics proudly serves North America, South America, and Europe and continues to grow its worldwide presence.

Corporate Headquarters
Stryka Botanics
279 Homestead Rd.
Hillsborough, NJ 08844

Toll-Free: 800/9-STRYKA
Tel: 908/281-5577
Fax: 908/281-5392
Web Site: www.stryka.com
E-mail: info@stryka.com

Locations of Other Offices and Facilities
Chatsworth, CA
Tel: 818/340-2640

Plano, TX 75074
Tel: 972/516-4264

Key Personnel
Brian McNally,
President

Michelle Weeks,
General Manager

visit our website
WWW.STRYKA.COM

Upcoming Event
Booth # 4059
SupplySide West
Mandalay Bay
Las Vegas, Nevada
October 17-18, 2019
Specialty Enzymes & Probiotics
Your Global Resource for Quality Enzymes & Probiotics

About Specialty Enzymes & Probiotics
Specialty Enzymes & Probiotics is a research-driven manufacturer with innovative probiotic and enzyme solutions shown to promote gut, joint, and immune health. We manufacture enzymes from all four natural origins: plant, fungal, microbial, and animal, as well as a full line of probiotics. We offer custom blends, individual enzymes, and probiotics in bulk, and scientifically formulated blends for use in digestion, sports nutrition, and protein and meal-replacement shakes. Our complete line of probiotics includes three shelf-stable, acid-stable Bacillus species, shown in clinical studies to support the gut microbiome. * Shortest Lead Times * Non-GMO products * Unparalleled Technical Support * 53 years of manufacturing experience

Products
Probiotics: Our ProbioSEB™ line is formulated to support a favorable environment for the growth of beneficial bacteria in the large intestine. Our latest probiotic blend, ProbioSEB CSC3™, is a revolutionary, shelf-stable probiotic blend of three spore-forming Bacillus species and prebiotic fructooligosaccharide (FOS) for a healthy gut microbiome. ProbioSEB CSC3™ is a triple-strength blend with SEBtilis™ (Bacillus subtilis), SEBiotic™ (Bacillus coagulans), and SEBclausii™ (Bacillus clausii), gram-positive bacteria that support healthy immune function*.

Digestive Enzymes: Our DigeSEB™ line contains a complete range of digestive enzymes to support the breakdown of carbohydrates, fats, proteins, and dairy products into nutrients the body can use.

Systemic Enzymes: We are the world’s largest manufacturer of serrapeptase, one of the most powerful systemic enzymes currently available. Our proven and effective systemic enzyme blends include Exclzyme EN™, Serracor™, and SEBkinase™.

Sports Nutrition: Our Prohydroxy P™ and Pepzyme AG™ are complete proteolytic enzyme blends crafted with the most active among us in mind.

Quality Assurance
Specialty Enzymes & Probiotics has rigorous quality-control systems built into every step of the process to ensure our customers receive high-quality, high-potency goods and unparalleled service.

We manufacture enzyme and probiotic solutions in state-of-the-art GMP-certified facilities, and offer full-service analytical laboratory testing and third-party certifications.

- GMP-certified by NSF International
- Non-GMO products certified by NSF True North
- Kosher
- Halal
- NASC Preferred Supplier

Services
- Custom formulations
- Third-party testing
- On-site manufacturing & testing

* This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Are you still using only one Bacillus? Triple your benefits with ProbioSEB CSC3™*

3 shelf-stable, acid-stable probiotics with 3 times the advantages*

1. SEBiotic™ (B. coagulans)
   Promotes Recovery from Diarrhea and Constipation*

2. SEBtilis™ (B. subtilis)
   Produces Antimicrobial Compounds, Allowing Beneficial Bacteria to Flourish*

3. SEBclausii™ (B. clausii)
   Promotes Healthy Gut Flora During and After Antibiotic Use*

A healthy gut microbiome begins with ProbioSEB CSC3™*

Use in:
- Powder
- Capsules

Custom Formulations + Full Range of Probiotics & Prebiotics Available

Specialty Enzymes & Probiotics

- Shortest Lead Times
- True Manufacturer
- Unparalleled Technical Support

Your Global Resource for Quality Enzymes & Probiotics

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

909-344-3587
Sunland Nutrition Inc. (Founded in 2012) is a premier distributor of a full line of nutritional ingredients from its in-stock program, with facilities in Southern California and New Jersey. Strong, long-time relationships with our worldwide manufacturers and business partners allow us to deliver both distinctive products and professional service at the most competitive prices. Our goal is to bring the highest-quality products to the Nutrition and Food & Beverage Industries and to provide up-to-date market information and insights on the latest pricing trends in order to help you manage the ever-changing requirements of the marketplace.

Our company spans multiple warehouses coast to coast (over 20,000 sq ft) and numerous sales offices across North America, and carries over 400 ingredients in stock. You can consistently count on Sunland Nutrition Inc. for on-time deliveries and innovative solutions that are supported by our professional customer service team and excellent quality control department.

**Key Categories**
- Vegan Amino Acids
- Vitamins & Minerals
- Specialty Ingredients
- Herbal Extracts
- Organic Sweeteners
- L-carnitine
- Phosphates
- Acidulants
- Antioxidants
- Preservatives

Our products are certified Organic, Non-GMO, Vegan, Kosher, GMP and Halal. (Certification varies based on individual ingredients)

**Major Markets**
- Food & Beverage
- Personal Care & Beauty
- Animal & Pet Nutrition
- Pharmaceutical & Nutraceutical Supplements
- Sports Nutrition

**Our Services**
Sunland Nutrition Inc. has a fully trained team to ensure that all customers’ expectations are met. Our services include the following:

- Contract Manufacturing
- Samples
- Worldwide Sourcing
- Running Inventory Program
- Fast and On-Time Delivery Services
- Logistics and Operations
- Warehousing
- Technical Documents
- Third-Party Lab Testing

We offer technical support from manufacturers directly to our customers regarding product information, and are committed to sourcing products that meet our customers’ needs. Our procurement group is experienced with overseas and domestic sourcing of materials. All our products are sourced only from manufacturers that are well-known and industry-trusted, with proven track record and high-quality ingredients. With our strong background in the nutritional ingredients field and years of experience, we guarantee our customers the best service by providing product liability and insurance for our clients and products.
PREMIUM RAW NUTRITIONAL INGREDIENTS SUPPLIER

400+ In Stock Products  Versatile Ingredients  Innovative Solutions  Warehouses Nationwide  On-Time Delivery

At Sunland Nutrition, Inc., we provide the highest quality ingredients in the Nutrition, Food & Beverage, Sports Nutrition, Personal Care and Feed Industries from all over the world. Bringing you both industry trusted products and professional service at the most competitive prices.

Organic • Non-GMO • Zero Carb • Vegan • Kosher • Halal • GMP
Anaheim, CA | sales@sunlandnutrition.com | 1-888-201-7888 | www.sunlandnutrition.com
Suzanne’s Specialties

Corporate Headquarters
Suzanne’s Specialties
421 Jersey Ave., Ste. B
New Brunswick, NJ 08901

Toll-Free: 800/762-2135
Tel: 732/828-8500
Fax: 732/828-8563

Web Site: www.suzannes-specialties.com
E-mail: info@suzannes-specialties.com

Key Personnel
Susan Morano, President
James Morano Jr., VP, Operations
James Restivo, Technical Sales

Description
Suzanne’s Specialties has been supplying alternative sweeteners to the health food industry, as well as the industrial and institutional food markets, since 1984. Our entire product line, including brown rice syrup, honey, tapioca syrup, and agave syrup, is available as Organic, with most offered in a conventional version as well. Suzanne’s promises that all of our products are made with only the highest-quality organic and all-natural ingredients, which will give your formulas and applications “Sweetness The Way Mother Nature Intended”™.

With distribution facilities on both the East and West coasts, along with a variety of pack sizes, Suzanne’s Specialties has a number of options available to serve your company’s specific needs.
We are excited to announce our fifth Maggie Award from the Western Publishing Association for our article “Scaling Up Stevia.”

Missed the May Issue? Read the winning article online: NutritionalOutlook.com/ScalingUpStevia

Thank you to all our readers for making this award possible!
TSI USA Inc.

Description
TSI is a world-class manufacturer of innovative and functional health products. TSI strives to build the highest-quality products that maximize and maintain active, healthy lifestyles for consumers. Since 1996, TSI has excelled in the innovative development of quality dietary ingredients and finished dosage products. We are committed to employing state-of-the-art operations and infrastructure to deliver best-in-class proprietary products that are functional, safe, and efficacious.

Services
• TSI offers customers the benefits of a vertically integrated supply chain: simplicity, innovation, and quality assurance. Exercising control over all aspects of production enables us to transform a concept or formulation into a finished product that is effective, quality tested and regulatory compliant. Through these unique activities, we deliver pioneering ingredients to our brand partners for increased growth, profitability and value.
• TSI also employs an international R&D team of renowned researchers and technical experts. Together, we combine proven science and modern technology to develop innovative solutions for the nutraceutical industry. Our innovation ingredient applications range from sports nutrition to healthy aging to bone & joint support.
• Our capabilities and services include formulation development, in-house manufacturing, analytical testing, custom blends and granulation, finished-dosage-form capabilities, as well as regulatory assistance.
• Specifically, our manufacturing capabilities include:
  o Proprietary and custom ingredient manufacturing under partnership
  o Premium botanical and natural product extraction
  o Granulation, chilsonation and custom blending for drum-to-hopper premixes
  o Finished-dosage manufacturing of tablets, two-piece capsules, stick packs, liquids, and creams
• International cGMP-certified production

Products
TSI offers a variety of high-quality, functional and proprietary ingredients. Please contact us directly or visit our website (www.tsiinc.com) for a complete product listing.

Nutraceuticals:
• PEAK ATP® Adenosine 5'-Triphosphate Disodium
• myHMB® β-hydroxy-β-methylbutyrate
• PUREFLEX® Chondroitin Sulfate
• Ostivone® Ipiflavone
• GlucosaGreen® Vegan Glucosamine
• Shellfish Glucosamine

Botanicals:
• Ginkgo 24/6/5™
• Opteava™ Green Tea

Corporate Headquarters
TSI USA Inc.
135 W. Main St., Ste. B
Missoula, MT 59802
Toll-Free: 877/549-9123
Tel: 406/549-9123
Fax: 406/549-6139
Web Site: www.tsiinc.com
E-mail: customersupport@tsiinc.com

Locations of Other Offices and Facilities:
UK, Australia, Japan, China

Key Personnel
Larry Kolb,
President
Joe Zhou,
CEO
STRONG STARTS NOW

Unlike other preworkout ingredients, PEAK ATP® has proven to be effective after a SINGLE DOSE.

NEWLY PUBLISHED RESEARCH CONFIRMS PEAK ATP® IMPROVES PERFORMANCE ON THE FIRST DAY OF TRAINING. THIS REVOLUTIONARY PREWORKOUT INGREDIENT IS CLINICALLY PROVEN TO INCREASE STRENGTH AND POWER, REDUCE MUSCLE FATIGUE AND AID RECOVERY. LEARN MORE AT WWW.PEAKATP.COM.
Vesta Pharmaceuticals Inc.
Committed to Innovative Products at Competitive Prices™

Quality and Reliability
As a leader in the nutraceutical industry since 1996, Vesta prides itself as a premier NSF cGMP-certified and FDA-registered, full-service provider. Our broad selection of quality nutraceuticals coupled with our competitive prices and on-time delivery are certain to reduce your costs and escalate your customers’ confidence in quality. You expect reliability, you demand quality. Vesta Pharmaceuticals adheres to the strictest industry standards with our rigorous QA/QC processes to guarantee the highest levels of quality, consistency, and reliability in every product and service we provide.

Services and Products
Vesta Pharmaceuticals is a full-service contract manufacturer of herbal, vitamin, mineral, and dietary supplements. Vesta’s services include packaging, manufacturing, technical support, and full-market support. We also offer a comprehensive packaging of nutritional products. In addition, Vesta’s capabilities include custom and stock formulations that satisfy the most discerning tastes. Our nutritional formations, specialized blending techniques, and high-speed, state-of-the-art packaging line are sure to please. Whether for tablets, capsules, powders, or blends—we have the experience to deliver them all. Our modern packaging equipment can supply your products in bottles, blister packs, or unit doses. Vesta Pharmaceuticals manufactures all products in house and guarantees quality and complete satisfaction.

Raw Material Sourcing
Vesta Pharmaceuticals has years of helping customers source their raw materials. We strive to find the best-quality raw materials on the market. We can help with much sought-after, quality products like SAMe (S-adenosyl-L-methionine), Natto MK7™ (Vitamin K2), Natto NSP-2™ (Nattokinase), Hyal-Flex™ (Hyaluronic acid), UltraFucoidan™ (Fucoidan), NADH, UltraPQQ™ (pyrroloquinolone quinone), β-ImmuneShield-85D™ (Beta Glucan 1,3 D).

Global Capabilities
Vesta is an Indiana company, but with international reach for nutraceutical contract manufacturing needs and logistics. We have strong relationships with 10 countries to ensure that your product obtains a significant market share.
Vidya Herbs

Description
For almost two decades, Vidya Herbs Pvt. Ltd. has served the nutrition, food and beverage, nutraceutical, and cosmetic industries as a world-leading manufacturer of plant extracts, natural carotenoids, essential oils, and oleoresins.

The natural ingredients market is expanding rapidly. Vidya is able to meet growing demand and provide customers with high quality materials that are traceable, sustainable, and sourced through environmentally friendly farming practices.

The company now operates seven global extraction facilities, including supercritical CO₂. Vidya also has a 15,000 SF state-of-the-art R&D Center, which has been instrumental in running several clinical trials and securing US Application Patents.

Vidya Herbs offers a wide range of products including anti-inflammation, weight management, heart and skin health, and more. The company’s broad portfolio makes it easy for customers worldwide to find quality material for all of their needs.

Herbal Extracts
- Ashwagandha*
- Bacopa
- Berberine
- Black Pepper*
- Boswellia*
- Coffee Bean Extract*
- Coleus
- Fenugreek
- Ginger*
- Green Coffee Bean*
- Moringa*
- Mucuna
- Saw Palmetto
- Turmeric*

Natural Carotenoids:
- Lutein
- Lycopene
- Beta Carotene
- Mixed Carotenoids

Clinically Studied Products
- SKIN-CERA® - Konjac Extract (non-Allergen), Beauty from Within Skin Health, Human Clinical completed, US Patent issued, successful launch in S. Korea
- Asdamarin™ - Proprietary blend of Asafoetida, Oleo Gum Resin and Milk Thistle for Dyspepsia / Stomach Conditions, Human Clinical completed
- Vispo™ - Saw Palmetto enriched ß-sitosterol (10x standard levels), Prostate Health, proprietary extraction process, Human Clinical initiated and scheduled to be completed by mid-2019
- CGA-7™ - Green Coffee Bean Extract, Weight Loss, Human Clinical completed and two US patents issued, successful launch in S. Korea Also, have filed for additional claims on lipid profile improvement, patent pending
The Wright Group
BALANCED SOLUTIONS™ for Better Products

Description
The Wright Group is a turnkey provider of customized nutritional blends and nutritional ingredients to global leaders in the growing functional food and nutritional supplement markets. With a strong reputation built over its 60-year history, Wright manufactures and supplies high-quality products composed of nutrient-rich raw materials with enrichment applications in a broad line of functional foods, beverages, dietary supplements, and other nutrition-based end-products.

The Wright Group works with our clients across the globe to offer ingredient insights and solutions such as custom nutrient premixes; microencapsulation of vitamins, minerals, and omega-3; direct-compressible granulations; and a complete line of value-added bakery ingredients and enrichment systems for rice and grains that are second to none.

Products
Wright offers a variety of fortification options to enhance an array functional foods and beverages. SuperCoat® microencapsulations offer superior nutrient protection, taste, and odor masking, as well as extended stability and shelf life. In addition, SuperCoat® flavor microencapsulation offers sustained and extended flavors release, especially in confectionery applications, and can be utilized to create SuperBlend® valued-added premixes in applications that may adversely affect nutrient potency and performance. SuperCoat® and SuperBlend® offer excellent function and flexibility in a variety of fortified foods, beverages, and wellness products.

SuperCoat® Omega-3, Wright’s most recent innovation using proprietary SMART™ microencapsulation technology, provides a tasteless, odorless, ready-to-use functional dry powder with excellent process properties that can be used in a range of bakery products, functional foods, and nutritional supplements. The Wright Group’s SuperCoat® Omega-3 helps take the guesswork out of developing shelf-stable end-use omega-3 products.

Nutritional supplement applications can benefit from our SuperTab® direct-compressible granulations, which deliver even particle distribution, high bulk density for consistent compression, and excellent flowability in multivitamin and other tableting applications.

Services
With such a diverse portfolio of products, Wright is one of only a select group of manufacturers with the resources and technology to deliver independent manufacturing of custom premixes, microencapsulates, and granulations. But we also understand that superior service is just as important as technology and expertise. That’s why Wright delivers quality-assured custom blends, microencapsulations, and granulations within two to four weeks of order placement. In addition, we provide you with prompt quotations, fortification technical assistance, and support documentation to help you efficiently deliver your products on time.

Quality Assurance
Wright operates out of GFSI-recognized FSSC22000-certified facilities. All of The Wright Group’s nutrient solutions are thoroughly tested by our in-house laboratory, ensuring product safety, potency, and performance. Wright also accompanies each order with a Certificate of Analysis. The Wright Group continues to be committed to providing cost-effective fortification, while maintaining our core values of innovation, quality, integrity, and customer commitment.
fueling the way we live

For over 100 years Wright Group™ has been providing innovative premix and ingredient solutions to customers worldwide.

- SuperBlend® custom nutrient premixes
- SuperCoat® microencapsulated nutrients
- SuperTab® direct compressible granulations
- enrichments • vitamins • minerals • Ahiflower®

Call us: (800) 201-3096   Visit us online: thewrightgroup.net

© Copyright 2019 Wright Enrichment Inc. All rights reserved. SuperTab®, SuperCoat® and SuperBlend® are registered trademarks of Wright Enrichment Inc.
Mission
Xela Pack has been producing environmentally conscious packaging since 1987. Our mission remains the same today as it was when we began: To produce the best sample and trial-size packaging possible, while paying utmost respect to the earth and environment.

Description
The 75%-paper-constructed Xela Pack®, also known as a PaperBottle®, features a self-closing orifice, making it ideal for single- and multi-dose applications. Sizes range from 5ml to 30ml, and a stand-up feature is available on most sizes. The paper surface of the Xela Pack allows for excellent printing in up to seven colors, including four-color process. All Xela Packs are 75% paper, and all paper is either 100% post-consumer-recycled paper or SFI®-certified virgin paper made from FSC®-sourced fibers.

Environmental Benefits
Xela Packs require about 92% less plastic and 50% less material overall than capped bottles and tubes of the same capacity. All Xela Packs are 75% paper, and all paper is either 100% post-consumer-recycled paper or SFI®-certified virgin paper made from FSC®-sourced fibers. Xela Packs require about 20% less space than bottles and tubes, reducing cardboard, shrink wrap, pallets, fuel, and other resources associated with shipping. They are fully collapsible after use and allow full dispersal of product as opposed to bottles and tubes, which can easily trap product residue. Xela Pack also offsets 100% of the energy we use with clean, renewable wind energy.

Products and Markets Served
Xela Pack produces environmentally conscious packaging for many different product markets, including food & beverage, dietary supplements, health & beauty, household, and more. The Xela Pack is suitable to contain liquids and viscous products, pills, powders, and granulated products too.

Certifications and Qualifications
Xela Pack is proud to announce that we are an ISO 9001:2015 certified company. Xela Pack is also GMP certified by NSF®. We are certified to handle organic products through the National Organic Program®, and we are Kosher compliant.
ENVIRO\NMENTALLY CONSCIOUS
PRODUCT SAMPLING
& TRIAL PACKAGING

- SELF-CLOSING FOR SINGLE- OR MULTI-DOSE • SIZES FROM 5ML - 30ML
- ORGANIC CERTIFIED & KOSHER COMPLIANT • WIND ENERGY COMMITTED
- ISO 9001:2015 CERTIFIED • GMP CERTIFIED BY NSF®

XELA PACK  XELAPACK.COM • 734.944.1300 • INFO@XELAPACK.COM

INTRODUCING THE
XP-FFS-5

Built exclusively by
Gentile Packaging Machinery, the XP-FFS-5 allows you
to produce environmentally conscious Xela Packs
AT YOUR OWN FACILITY!

New improved system launching in September 2019! Contact us for a visit!

GPM Gentile Packaging Machinery  GENTILEMACHINERY.COM • 734.429.1177 • INFO@GENTILEMACHINERY.COM
XSTO Solutions

Your science + our sales & marketing = successful ingredient launch

**Description**
XSTO’s focus is introducing new, science-supported nutritional ingredients to the functional food and dietary supplement markets.

**Services**
- Sales
- Marketing
- Warehousing + Distribution
- New Product Launches
- Market Research

**Products**
- PepZinGI
- Cuvitus
- K2Quest Vitamin K2Mk7
- Benfopure, Niaxtend

**Corporate Headquarters**
XSTO Solutions
45 S. Park Pl.
Morristown, NJ 07960

Toll-Free: 973/975-4224
Tel: 973/975-4224
Web Site: www.xstosolutions.com
Email: info@xstosolutions.com

**Key Personnel**
Francis Foley,
President

Dan Murray,
Vice President

Andrew Downey,
Marketing Manager
XSTO’s focus is introducing new science-supported nutritional ingredients to the functional food and dietary supplement market.

**Cuvitus®**

Whole-Fruit Cucumber Extract

Clinically Shown to Improve Performance, support natural recovery, and ease muscle and joint discomfort.

Active lifestyles, workouts, and exercise can lead to temporary muscle & joint discomfort. Patented and clinically-studied, Cuvitus is a new and exciting sports nutrition shown to enhance performance and increase recovery.

Perfect for Innovative New Product Opportunities

- Sports Nutrition & Recovery
- Joint Health
- Pre & Post Workout
- Active Lifestyle

For more information, please visit xstosolutions.com

Francis Foley • fxfoley@xstosolutions.com • 973-975-4224
Dan Murray • dmurray@xstosolutions.com • 678-445-3535
<table>
<thead>
<tr>
<th>Page(s)</th>
<th>Company Name</th>
<th>Website or E-mail</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>Acadian Seaplants</td>
<td><a href="http://www.acadianseaplants.com">www.acadianseaplants.com</a></td>
<td>800/575-9100</td>
</tr>
<tr>
<td>44</td>
<td>ADH Health Products</td>
<td><a href="http://www.adhhealth.com">www.adhhealth.com</a></td>
<td>845/268-0027</td>
</tr>
<tr>
<td>47</td>
<td>AIBMR</td>
<td><a href="http://www.aibmr.com">www.aibmr.com</a></td>
<td>253/286-2888</td>
</tr>
<tr>
<td>45</td>
<td>AIDP Inc.</td>
<td><a href="http://www.aidp.com">www.aidp.com</a></td>
<td>866/262-6699</td>
</tr>
<tr>
<td>49</td>
<td>Alpha Packaging</td>
<td><a href="http://www.alphap.com">www.alphap.com</a></td>
<td>800/421-4772</td>
</tr>
<tr>
<td>50</td>
<td>Applied Food Sciences Inc.</td>
<td><a href="http://www.appliedfoods.com">www.appliedfoods.com</a></td>
<td>800/345-9666</td>
</tr>
<tr>
<td>51</td>
<td>Arista Industries Inc.</td>
<td><a href="http://www.aristaindustries.com">www.aristaindustries.com</a></td>
<td>203/761-1009</td>
</tr>
<tr>
<td></td>
<td>IFC, 21, 53</td>
<td></td>
<td>800/274-5263</td>
</tr>
<tr>
<td>54</td>
<td>Asiamerica Ingredients Inc.</td>
<td><a href="http://www.asiaamericaingredients.com">www.asiaamericaingredients.com</a></td>
<td>201/497-5993</td>
</tr>
<tr>
<td>55</td>
<td>Batory Nutra</td>
<td><a href="http://www.batorynutra.com">www.batorynutra.com</a></td>
<td>800/451-9067</td>
</tr>
<tr>
<td>57</td>
<td>Bergstrom Nutrition</td>
<td><a href="http://www.bergstromnutrition.com">www.bergstromnutrition.com</a></td>
<td>888/733-5676</td>
</tr>
<tr>
<td>58</td>
<td>Best Formulations</td>
<td><a href="http://www.bestformulations.com">www.bestformulations.com</a></td>
<td>626/912-9998</td>
</tr>
<tr>
<td>61</td>
<td>BIO-CAT</td>
<td><a href="http://www.bio-cat.com">www.bio-cat.com</a></td>
<td>877/912-4622</td>
</tr>
<tr>
<td>63</td>
<td>BioCell Technology LLC</td>
<td><a href="http://www.biocelltechnology.com">www.biocelltechnology.com</a></td>
<td>714/632-1231</td>
</tr>
<tr>
<td>65</td>
<td>Bioenergy Life Science Inc.</td>
<td><a href="http://www.bioenergyribose.com">www.bioenergyribose.com</a></td>
<td>763/757-0032</td>
</tr>
<tr>
<td>67</td>
<td>Biova</td>
<td><a href="http://www.biova.com">www.biova.com</a></td>
<td>877/682-2673</td>
</tr>
<tr>
<td>59</td>
<td>Bolton &amp; Co.</td>
<td><a href="http://www.boltonco.com">www.boltonco.com</a></td>
<td>626/799-7000</td>
</tr>
<tr>
<td>68</td>
<td>Cactus Botanics</td>
<td><a href="http://www.cactusbotanics.com">www.cactusbotanics.com</a></td>
<td>562/219-2167</td>
</tr>
<tr>
<td>71</td>
<td>California Natural Color</td>
<td><a href="http://www.californianaturalcolor.com">www.californianaturalcolor.com</a></td>
<td>800/557-0220</td>
</tr>
<tr>
<td>73</td>
<td>CAPTEK Softgel International Inc.</td>
<td><a href="http://www.capteksoftgel.com">www.capteksoftgel.com</a></td>
<td>800/638-6883</td>
</tr>
<tr>
<td>75</td>
<td>Certified Nutraceuticals Inc.</td>
<td><a href="http://www.certifiednutra.com">www.certifiednutra.com</a></td>
<td>949/455-9708</td>
</tr>
<tr>
<td>69</td>
<td>Columbia Nutritional LLC</td>
<td><a href="http://www.columbianutritional.com">www.columbianutritional.com</a></td>
<td>360/737-9966</td>
</tr>
<tr>
<td>29</td>
<td>Council for Responsible Nutrition</td>
<td><a href="http://www.crnusa.org">www.crnusa.org</a></td>
<td>202/204-7700</td>
</tr>
<tr>
<td>83</td>
<td>DPL-US</td>
<td><a href="http://www.dpl-us.com">www.dpl-us.com</a></td>
<td>631/851-8810</td>
</tr>
<tr>
<td>81</td>
<td>DRT Purextract</td>
<td><a href="http://www.theoriginalpinebarkextract.fr">www.theoriginalpinebarkextract.fr</a></td>
<td>33 0 558 566 200</td>
</tr>
<tr>
<td>85</td>
<td>Ecuadorian Rainforest LLC</td>
<td><a href="http://www.intootherrainforest.com">www.intootherrainforest.com</a></td>
<td>973/759-2002</td>
</tr>
<tr>
<td>27</td>
<td>Elite Ingredients</td>
<td><a href="http://www.elite-ingredients.com">www.elite-ingredients.com</a></td>
<td>973/955-2600</td>
</tr>
<tr>
<td>86</td>
<td>Elizabeth Companies, The</td>
<td><a href="http://www.tabletpress.com">www.tabletpress.com</a></td>
<td>800/635-6303</td>
</tr>
<tr>
<td>87</td>
<td>Evola</td>
<td><a href="http://www.veriteresveratrol.com">www.veriteresveratrol.com</a></td>
<td>800/250-1032</td>
</tr>
<tr>
<td>89</td>
<td>FrieslandCampina Ingredients</td>
<td><a href="http://www.dmv.nl">www.dmv.nl</a></td>
<td>+31 (0)33 713 33 33</td>
</tr>
<tr>
<td>93</td>
<td>GMP Laboratories of America Inc.</td>
<td><a href="http://www.gmplabs.com">www.gmplabs.com</a></td>
<td>714/630-2467</td>
</tr>
<tr>
<td>91</td>
<td>Gnosis</td>
<td><a href="http://www.gnosis-bio.com">www.gnosis-bio.com</a></td>
<td>215/340-7960</td>
</tr>
<tr>
<td>Page(s)</td>
<td>Company Name</td>
<td>Website or E-mail</td>
<td>Phone Number</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------------</td>
<td>------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>95</td>
<td>Gold Coast Ingredients Inc.</td>
<td><a href="http://www.goldcoastinc.com">www.goldcoastinc.com</a></td>
<td>323/724-8935</td>
</tr>
<tr>
<td>97</td>
<td>Grain Processing Corp.</td>
<td><a href="http://www.grainprocessing.com">www.grainprocessing.com</a></td>
<td>563/264-4265</td>
</tr>
<tr>
<td>98</td>
<td>Green Source Organics</td>
<td><a href="http://www.gsoextracts.com">www.gsoextracts.com</a></td>
<td>805/845-9191</td>
</tr>
<tr>
<td>99</td>
<td>Hilmar Ingredients</td>
<td><a href="http://www.hilmaringredients.com">www.hilmaringredients.com</a></td>
<td>209/667-6076</td>
</tr>
<tr>
<td>101</td>
<td>Indena</td>
<td><a href="http://www.indena.com">www.indena.com</a></td>
<td>206/340-6140</td>
</tr>
<tr>
<td>9</td>
<td>Jiaherb Inc.</td>
<td><a href="http://www.jiaherb.com">www.jiaherb.com</a></td>
<td>973/439-6869</td>
</tr>
<tr>
<td>105</td>
<td>Jost Chemical Co.</td>
<td><a href="http://www.jostchemical.com">www.jostchemical.com</a></td>
<td>314/428-4300</td>
</tr>
<tr>
<td>3</td>
<td>KEB Nutraceutical</td>
<td><a href="http://www.kebnutra.com">www.kebnutra.com</a></td>
<td>714/990-8830</td>
</tr>
<tr>
<td>109</td>
<td>Lallemand Health Solutions</td>
<td><a href="http://www.lallemand-health-solutions.com">www.lallemand-health-solutions.com</a></td>
<td>973/634-1120</td>
</tr>
<tr>
<td>107</td>
<td>Ligand Pharmaceuticals</td>
<td><a href="http://www.captisol.com">www.captisol.com</a></td>
<td>877/575-5593</td>
</tr>
<tr>
<td>111</td>
<td>Marinova Pty Ltd.</td>
<td><a href="http://www.marinova.com.au">www.marinova.com.au</a></td>
<td>+61 3 6248 5800</td>
</tr>
<tr>
<td>113</td>
<td>Metabolic Technologies Inc.</td>
<td><a href="http://www.mtibiotech.com">www.mtibiotech.com</a></td>
<td>515/296-9916</td>
</tr>
<tr>
<td>115</td>
<td>Mineral Logic LLC</td>
<td><a href="http://www.minerallogic.com">www.minerallogic.com</a></td>
<td>800/342-6960</td>
</tr>
<tr>
<td>116</td>
<td>Morre-Tec Industries Inc.</td>
<td><a href="http://www.morretrec.com">www.morretrec.com</a></td>
<td>908/688-9009</td>
</tr>
<tr>
<td>117</td>
<td>Nammex</td>
<td><a href="http://www.nammex.com">www.nammex.com</a></td>
<td>604/886-7799</td>
</tr>
<tr>
<td>119</td>
<td>Natreon Inc.</td>
<td><a href="http://www.natreoninc.com">www.natreoninc.com</a></td>
<td>732/296-1080</td>
</tr>
<tr>
<td>121</td>
<td>Natural Alternatives International</td>
<td><a href="http://www.nai-online.com">www.nai-online.com</a></td>
<td>760/736-7700</td>
</tr>
<tr>
<td>123</td>
<td>Natural Remedies</td>
<td><a href="http://www.naturalremedy.com">www.naturalremedy.com</a></td>
<td>+91 80 4020 9999</td>
</tr>
<tr>
<td>125</td>
<td>Nature4science Inc.</td>
<td><a href="http://www.nature4science.com">www.nature4science.com</a></td>
<td>714/223-0647</td>
</tr>
<tr>
<td>127</td>
<td>NP Nutra</td>
<td><a href="http://www.npnutra.com">www.npnutra.com</a></td>
<td>310/694-3031</td>
</tr>
<tr>
<td>129</td>
<td>NSF International</td>
<td><a href="http://www.nsf.org">www.nsf.org</a></td>
<td>734/827-6856</td>
</tr>
<tr>
<td>131</td>
<td>Nutralliance</td>
<td><a href="http://www.nutralliance.com">www.nutralliance.com</a></td>
<td>714/694-1400</td>
</tr>
<tr>
<td>133</td>
<td>Nutrition 21</td>
<td><a href="http://www.nutrition21.com">www.nutrition21.com</a></td>
<td>914/701-4500</td>
</tr>
<tr>
<td>IBC</td>
<td>Oregenetics Inc.</td>
<td><a href="http://www.orgenetics.com">www.orgenetics.com</a></td>
<td>714/575-0005</td>
</tr>
<tr>
<td>135</td>
<td>Overnight Labels Inc.</td>
<td><a href="http://www.overnightlabels.com">www.overnightlabels.com</a></td>
<td>800/472-5753</td>
</tr>
<tr>
<td>137</td>
<td>PAT Vitamins</td>
<td><a href="http://www.patvitamins.com">www.patvitamins.com</a></td>
<td>626/810-8886</td>
</tr>
<tr>
<td>138</td>
<td>Pharmore Ingredients Inc.</td>
<td><a href="http://www.pharmore.com">www.pharmore.com</a></td>
<td>801/446-8188</td>
</tr>
<tr>
<td>139</td>
<td>Rhema Health Products Ltd.</td>
<td><a href="http://www.rhemamade.com">www.rhemamade.com</a></td>
<td>800/607-4362</td>
</tr>
<tr>
<td>141, BC</td>
<td>Robinson Pharma Inc.</td>
<td><a href="http://www.robinsonpharma.com">www.robinsonpharma.com</a></td>
<td>714/241-0235</td>
</tr>
<tr>
<td>140</td>
<td>Rochem International Inc.</td>
<td><a href="http://www.rochemintl.com">www.rochemintl.com</a></td>
<td>631/738-1188</td>
</tr>
<tr>
<td>77</td>
<td>ROSS Mixers</td>
<td><a href="http://www.mixers.com">www.mixers.com</a></td>
<td>800/243-7677</td>
</tr>
<tr>
<td>142</td>
<td>Ruspak Contract Packaging Services</td>
<td><a href="http://www.ruspak.com">www.ruspak.com</a></td>
<td>315/946-9777</td>
</tr>
<tr>
<td>Page(s)</td>
<td>Company Name</td>
<td>Website or E-mail</td>
<td>Phone Number</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>13,17,146-147</td>
<td>Sabinsa Corp.</td>
<td><a href="http://www.sabinsa.com">www.sabinsa.com</a></td>
<td>732/777-1111</td>
</tr>
<tr>
<td>11</td>
<td>SaltWorks Inc.</td>
<td><a href="http://www.seasalt.com">www.seasalt.com</a></td>
<td>425/885-7258</td>
</tr>
<tr>
<td>15</td>
<td>Soft Gel Technologies Inc.</td>
<td><a href="http://www.soft-gel.com">www.soft-gel.com</a></td>
<td>800/360-7484</td>
</tr>
<tr>
<td>151</td>
<td>Specialty Enzymes &amp; Probiotics</td>
<td><a href="http://www.specialtyenzymes.com">www.specialtyenzymes.com</a></td>
<td>909/613-1660</td>
</tr>
<tr>
<td>5</td>
<td>Stryka Botanics</td>
<td><a href="http://www.stryka.com">www.stryka.com</a></td>
<td>908/281-5577</td>
</tr>
<tr>
<td>153</td>
<td>Sunland Nutrition Inc.</td>
<td><a href="http://www.sunlandnutrition.com">www.sunlandnutrition.com</a></td>
<td>888/201-7888</td>
</tr>
<tr>
<td>154</td>
<td>Suzanne’s Specialties</td>
<td><a href="http://www.suzannes-specialties.com">www.suzannes-specialties.com</a></td>
<td>800/762-2135</td>
</tr>
<tr>
<td>157</td>
<td>TSI Health Sciences</td>
<td><a href="http://www.tsiinc.com">www.tsiinc.com</a></td>
<td>877/549-9123</td>
</tr>
<tr>
<td>158</td>
<td>Vesta Ingredients Inc.</td>
<td><a href="http://www.vestainingredients.com">www.vestainingredients.com</a></td>
<td>888/558-3782</td>
</tr>
<tr>
<td>6</td>
<td>Vidya Herbs Pvt. Ltd.</td>
<td><a href="http://www.vidyaherbs.com">www.vidyaherbs.com</a></td>
<td>732/784-1587</td>
</tr>
<tr>
<td>161</td>
<td>Wright Group, The</td>
<td><a href="http://www.thewrightgroup.net">www.thewrightgroup.net</a></td>
<td>337/783-3096</td>
</tr>
<tr>
<td>163</td>
<td>Xela Pack</td>
<td><a href="http://www.xelapack.com">www.xelapack.com</a></td>
<td>734/944-1300</td>
</tr>
<tr>
<td>165</td>
<td>XSTO Solutions LLC</td>
<td><a href="http://www.xstosolutions.com">www.xstosolutions.com</a></td>
<td>973/975-4224</td>
</tr>
</tbody>
</table>
For over 20 years, *Nutritional Outlook* has remained the leading publication in the North American nutraceuticals market. Now with the MJH Life Sciences family of brands inclusive of magazines, websites, digital products, and trade shows, the leading information provider has become the biggest international powerhouse in the industry. *Nutritional Outlook* is the most comprehensive and effective platform providing you with innovative content, reliable products and services and unlimited ways to reach your potential customers across the world!
Protein Aplenty

Better formulating tools are giving companies more options for protein bars.

BY SEBASTIAN KRAWIEC, ASSOCIATE EDITOR

Bars have long been an ideal vehicle for protein, combining convenience and functionality. The protein space continues to diversify with more plant-based options and innovations that optimize bar taste and texture.

“The nutritional bar market is dominated by protein-rich bars and is expected to see continued growth with the use of both animal- and plant-based proteins,” says Dina Fernandez, plant protein R&D manager, ADM Nutrition, Archer Daniels Midland Co. (ADM; Chicago, IL).

Plant proteins have received a great share of the attention. “The use of plant-based proteins has increased in the last decade, opening innovative opportunities for all types of food applications, especially in the vegan, vegetarian, and flexitarian markets,” says Fernandez. “Plant-based proteins are often preferred for their nutritional benefits, sustainability considerations, and dietary diversity.”

While plant proteins have been trending, dairy proteins and isolates remain competitive within the protein bar space, specifically within sports nutrition. “Although the plant-based protein market continues to thrive, recent figures show that food and beverage launches featuring dairy proteins are seeing steady growth, with a compound annual growth rate of 7% (globally, 2014-2018),” says Sarah O’Neil of Carbery (Wauconda, IL), citing Innova Market Insights data. She continues: “Sports nutrition is the leading market category featuring dairy proteins. With innovative launches seen in the seniors and infant categories, it is clear that dairy proteins hold strong potential for targeting different consumer groups.”

Sports nutrition has become an interesting space in and of itself, no longer just catering to athletes. “The traditional, single-core protein bar still has its place targeting athletes and fitness enthusiasts; however, we have seen a move toward multilayer bars that incorporate other textures such as protein crisps, and layers,” says O’Neil. “Additionally, there has been an increase in the number of bites and snack sizes being launched, along with products targeted at the paleo, vegan, and ketogenic diets.”

Refrigerated bars are very popular at the moment, points out Leda Strand, manager of snacks, bakery, and confections, applications science and technology, for ADM. “Consumers perceive refrigerated bars as healthier because, by virtue of them being in the refrigerated section, they seem fresher, more natural, and less processed.”

“These bars are often formulated with a high amount of nut butter and rice syrup, maple syrup, or honey to differentiate them from shelf-stable bars,” explains Strand. “Typically, they are found in the refrigerated section at retail but can be held at room temperature for up to a week. The bars soften once removed from refrigeration and are ideal for athletes, kids, and the whole family.”

A theme that emerges when talking about bars is texture, which is key to the success of a bar. Consumer preference varies when it comes to texture, with some preferring crunch and others preferring softness. Suppliers and protein bar manufacturers are constantly innovating to improve the taste and texture of bar formulations. One common challenge with bars is maintaining a consistent texture during shelf life.

“As a plant-based protein bar ages, the texture typically becomes harder, with a dry mouthfeel. ADM offers a full line of soy proteins that provide functionality to maintain a soft and moist bar texture. These proteins have low-water-binding and -holding capacity and delay moisture absorption, therefore delaying bar hardening,” explains Strand. “In many cases, we also recommend that our customers combine the use of protein isolates or concentrates with soy crisps or textured soy protein such as [ADM’s soy protein concentrate] Arcon T, to reach the targeted protein level. In addition, we use soy protein isolates to differentiate the texture of a bar to achieve varying sensory attributes, from a short, cookie-like texture to a chewy, brownie-like texture. This allows for increased flexibility in the finished bar characteristics.”

The same goes for dairy-protein bars. After surveying manufacturers from Europe, North America, and Australia, Carbery learned that 50% of those surveyed experience hardening as early as three months into a product’s shelf life. Carbery is trying to solve this with its Optipep 4Bars whey protein ingredients, sourced from milk from grass-fed cows, which also offers something for vegetarians and is said to maintain a soft texture.

“Many bar manufacturers are faced with using non-vegetarian protein sources to deliver a soft texture in their bars over shelf life. Increasingly, this can be unappealing to many consumers who are looking for vegetarian and natural claims,” says O’Neil. “Our studies have revealed that using Optipep 4Bars in your bar formulation delivers a 53% reduction in hardness at 12 months versus a protein bar that does not contain Optipep 4Bars.”
Orgen-E® is 100% USDA Certified Organic & All Natural Annatto extract standardized for 15% Organic & All Natural Vitamin E

- Water extracted
- No synthetic solvents, excipients, or carriers
- No filler material
- Remaining % is the co-factors and co-nutrients of the Annatto extract

www.vitamin-e.organic
Robinson Pharma, Inc.
Private Label | Store Brand | Nutritional Manufacturing

Up To $5 Million IN INVENTORY INVESTMENT TO SUPPORT OUR CUSTOMERS*

5% to 10% DISCOUNT ON YOUR CURRENT MANUFACTURER PRICING*

UP TO 60 DAYS TERM*

* New customers only and subject to qualification.

- Best Quality Products
- Excellent Services
- Delivery On Time
- Over 650,000 sq ft of Production Space
- State of the Art Facilities
- Softgels, Powders, Tablets, Capsules and Liquids
- Largest Softgel Capacity in USA

Registrations / Certifications We Offer

- UL
- UAE
- CCOF
- NSF
- SQF
- Ifanca (Halal)
- NSF Gluten Free
- Health Canada
- Sport Certification

Contact us at (714) 241-0235 ext 1214 or visit our website at robinsonpharma.com