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Yes to New GMO-Labeling Law?

It's finally here. On July 29, President Obama signed into law the Biotech Labeling Solutions Act (S. 764), the United States' first mandatory, federal GMO-labeling law. (Turn to page 12 to read more.) Now that the United States finally has a nationwide GMO-labeling law, how does the food and dietary supplement industry feel about it?

The reaction has been fairly positive—or, at the very least, one of acceptance. Food industry groups like the Grocery Manufacturers Association are of course enthusiastic about the new law because although the law is mandatory, it will be minimally painful for food companies worried about putting the term GMO on their labels; instead the law lets firms "label" with a simple QR code that directs consumers online to read actual information about GMO content. Simply put, if you don't want to put the term GMO on your label at all, this law lets you do just that.

Given that many product marketers and ingredient suppliers today put a lot of emphasis on offering non-GMO products, it may be surprising to hear that many view this law as a good compromise between those who want more-stringent GMO labeling and those who want less. In a press statement, Steve Mister, president and CEO of the Council for Responsible Nutrition (CRN; Washington, DC), called the measure "reasonable." He called it "a constructive and practical solution for consumers seeking to educate themselves about whether or not products contain genetically engineered ingredients in order to make informed purchasing decisions."

Those who support the law view it as a good thing for one important reason—it is a nationwide law that will avoid the complication of numerous individual state-level GMO-labeling laws. In this vein, CRN's Mister said it "prevents a patchwork of state-by-state laws that would have led to consumer confusion and higher product costs."

At July's Institute of Food Technologists Annual Meeting & Food Expo (IFT), I asked companies how they felt about the law. Reactions were positive. Most pointed to the federal standard as beneficial. Nancy Gaul, senior category manager of health, wellness, and dairy for Tate & Lyle (Decatur, IL), said, "One thing that we hear from customers that is a positive is the fact that it's a federal law. The idea of having different states creating their own laws is something that the industry, from what we hear, didn't want to happen."

From that vantage point, Michael McGuffin, president of the American Herbal Products Association (Silver Spring, MD), also supported the federal standard in a press statement: "From an industry perspective, there is significant relief in knowing there will be a single regulatory obligation for disclosure of GMOs in foods sold in the United States, rather than having to deal with various state laws." (He did, however, recognize those who still feel this labeling law may not be strict enough: "On the other hand, many of AHPA's members view the law's allowance of disclosure of presence of genetically engineered ingredients through a QR code as lacking in transparency and not sufficient to completely inform consumers.")

Most of those I spoke to at the IFT trade show did not seemed troubled by the new law, nor did they seem to think it would fundamentally change their business.

Nina Hughes-Likins, senior marketing manager for supplier Synergy Flavors (Wauconda, IL), said, "From a flavor manufacturer's perspective, we're glad that Congress passed something that obviously will please some of the people, and it's not so strict that it's going to pass on the cost to the consumer in the end. So, I think it's a great compromise."

Hughes-Likins noted that the law probably would not alone be responsible for any significant demand growth for non-GMO ingredients: if companies were looking for non-GMO ingredients prior to the law, they will continue doing so. Hughes-Likins pointed out that "if the law had gone the other route" by requiring more-stringent GMO labeling, "then, yes, we would have had a lot more demand for non-GMO." Instead, she said, "there are still going to be people who want non-GMO. It's still going to be on trend."

If anything, the law will provide information on GMO content that previously was absent—and more information is better than none. "[It] is a constructive and practical solution for consumers seeking to educate themselves about whether or not products contain genetically engineered ingredients in order to make informed purchasing decisions. It also provides reasonable options for companies to convey this information in a way that is easy for consumers to access and understand," Mister said. "It's a win all around."

Jennifer Grebrow
Editor-in-Chief
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The campaign to establish a federal GMO-labeling law has come to a close. On July 29, President Obama signed into law the Biotech Labeling Solutions Act (S. 764), the nation’s first mandatory GMO-labeling law. This law preempts any state-led GMO-labeling efforts, most notably nullifying the state of Vermont’s own mandatory GMO-labeling law.

With this law in place, food companies no longer have to worry about the long-feared “patchwork” of different state GMO-labeling laws. Vermont’s mandatory GMO-labeling law, which is considerably stricter than S. 764, went into effect on July 1, but enforcement wasn’t scheduled to begin until next year.

Pamela G. Bailey, president and CEO of GMA, hailed the news as a “win-win for every American family in every state.” “The legislation ensures that consumers get more information about genetically engineered ingredients, prevents a patchwork of confusing and costly state labeling mandates, and provides the same labeling rules to shoppers regardless of where they live or shop,” Bailey said. “It is the right solution to increase disclosure of information that consumers are seeking without stigmatizing a safe technology that feeds a hungry and growing world.”

Opponents of the legislation, including the consumer advocacy group U.S. Right to Know, had urged President Obama to veto the legislation. “[It] is a sweetheart deal for the food and agricultural industries, who want to keep consumers guessing about the contents of their food,” said Gary Ruskin, co-director of U.S. Right to Know. “There are legitimate questions about the health and environmental risks of genetically engineered crops, including the glyphosate herbicide that many are doused with.”

Fiber Suppliers “Confident” FDA Will Define Their Ingredients as Dietary Fibers

Fiber-ingredient suppliers have been on high alert for more than two years ever since FDA announced its intention to revamp U.S. Nutrition Facts labels. Along with those label changes, the agency finally created a definition for a dietary fiber—one that may leave many fibers out in the cold. The nutrition labeling rule went into effect on July 26 of this year, and large companies have two years from then to comply with the new definition. Fiber suppliers at July’s Institute of Food Technologists Annual Meeting & Food Expo (IFT) told Nutritional Outlook that while they are confident FDA will eventually consider their ingredients to be dietary fibers, the path to FDA approval is unclear.

FDA’s new definition of a dietary fiber is a fiber that has a “physiological effect that is beneficial to human health.” The definition is limited to fibers that are 1) non-digestible carbohydrates (with 3 or more monomeric units) and lignins intrinsic and intact in plants, such as whole grains and natural fruit and vegetable fibers, or 2) added fibers, such as isolated or synthetic non-digestible carbohydrate fibers, including both insoluble and soluble.
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and soluble prebiotic fibers, as long as FDA has pre-approved the fiber as a dietary fiber or as long as the ingredient is already the subject of an FDA-approved health claim. Alas, the list of approved fibers is short at the moment. For now, it includes only cellulose, guar gum, pectin, locust bean gum, and hydroxypropyl methylcellulose (HPMC), as well as beta-glucan and psyllium, which are the subject of health claims.

Even before FDA released its final Nutritional Facts panel rule, companies that supplied fiber began petitioning the agency to get their fiber ingredients added to the approved list by providing the agency with research data demonstrating that their particular fibers have shown physiological benefits in human studies. According to the publication Food Chemical News, Top Health Ingredients Inc., a Canadian fiber supplier, submitted a citizen’s petition as far back as April 9 for its AdvantaFiber isomalto-oligosaccharide fiber (IMO), stating that “IMO has long been considered by the scientific community to be a dietary fiber.”

During the IFT show, fiber suppliers Tate & Lyle (Decatur, IL) and Fibersol/ADM Natural Health and Nutrition (Decatur, IL) said they had either already submitted or would soon submit their own petitions to FDA. Most said they were confident that, given the breadth of scientific evidence supporting the health benefits of their fibers, their fibers would eventually gain FDA approval.

“We were anticipating these new FDA guidelines,” said Nancy Gaul, Tate & Lyle’s senior category manager for health, wellness, and dairy. Gaul said Tate & Lyle has submitted petitions for its Promotor soluble corn fiber and its Sta-Lite polydextrose fiber. The company did not have to submit a petition for its PromOat soluble oat beta-glucan fiber because it is already on FDA’s approved list. “We’re feeling positive that we will get the approval as a dietary fiber because we have a lot of science that we submitted with this petition that shows the health benefits of our fiber,” Gaul said.

Doris Dougherty, Fibersol technical service representative, said the company is likewise working to get Fibersol approved. On July 19 during IFT, she said, “We are in the process of submitting a citizen’s petition. We expect to have it by the end of the week.” She, also, seemed sure that FDA would approve the company’s fiber. “We are so confident. We have an enormous amount of data around Fibersol, so we’re very confident that once we file the petition and they have a chance to review all of our information, then they will accept it.”

Some companies are waiting to submit petitions until FDA provides more insight on the agency’s thinking, including what types of scientific evidence companies need in order to meet the new definition. FDA has said it would publish and make public, via the Federal Register, more details about the data the agency considered when devising the new fiber definition. The agency has not, however, made clear exactly when this information will be shared, and it was not yet released at the time this story was published.

Anke Sentko, vice president of regulatory affairs and nutrition communication for Beneo GmbH (Manheim, Germany), said her company is preparing a citizen’s petition for its Orafti chicory root inulin and oligofructose soluble fibers but is waiting for FDA to release more details. “Of course, we need first of all to develop intelligence on how FDA looked into the data and what kind of data they looked at, so everyone is waiting now for the notice to come out.” Sentko said she believes that when her company shares its ingredient research, “it will make a difference.”

“What FDA surely did not have is our confidential and unpublished data” when they made their decisions, Sentko added. The data “was enough for EFSA to agree on a claim [in the EU], so we hope that this will change the picture.”

All suppliers said they hope FDA will disclose information and respond to petitions in a timely manner because large companies have only two years—until July 26, 2018—to comply with the new nutrition labeling requirements, including for fiber. (The compliance dates differ depending on a company’s size. Companies with sales above $10 million must comply with the rule by July 26, 2018, while those with sales under $10 million have an additional year to do so, until July 26, 2019.)

“We hope that FDA will respond quickly because clearly it impacts the industry,” said Tate & Lyle’s Gaul.

“Everybody’s hopeful it will be the next couple of months,” said Rajen Mehta, PhD, senior director, specialty ingredients, for Grain Millers (Eden Prairie, MN). “It could be anywhere from a few weeks to several months.”

Even companies that are relatively sure their ingredients already fall under FDA’s new fiber definition said they are treading cautiously and not making assumptions. Grain Millers, for instance, supplies whole-grain ingredients like oats, wheat, barley, and rye. These ingredients are cooked and ground—milling processes the firm believes FDA does permit for intrinsic and intact fibers. However, Mehta said, FDA has not clarified which processes it allows under the definition. For this reason, his company is still consulting legal advisors to ensure its ingredients meet regulations.

“We are confident that our oat fibers meet FDAs new guidelines as ‘intrinsic and intact’ and thus meet the definition of dietary fiber for FDA’s revised nutritional facts label, but we are still going through the due-diligence process and being careful,” Mehta said.
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said, “Everybody’s a little confused about the FDA’s current thinking on the process for establishing this status.”

“I have a feeling FDA has some questions, too, as to where they want to go,” he added. “So we’re just going to get all our data together” in the meantime, he said.

In terms of whether companies need to start reformulating their products now, Tate and Lyle’s Gaul said, “I don’t think there are reformulation concerns yet.” If FDA sanctions a company’s fiber before the compliance deadline, the company’s clients should not need to change their product recipes to exclude the fiber.

Still, there is one situation in which companies might need to reformulate anyway. FDA is also planning to raise the daily value for dietary fiber from 25 g to 28 g for a 2,000-calorie diet—a level in line with current Institute of Medicine recommendations. If companies want to continue making “good source of” or “excellent source of” fiber claims, they might need to reformulate if their fiber content is no longer high enough to meet the level needed to make claims.

Gaul noted that food products will need to contain 5.6 g of fiber per serving in order to make an “excellent source of” claim, versus the 5 g originally required. “Those customers and manufacturers that do want to continue making an ‘excellent source of’ fiber claims, they might need to reformulate if their fiber content is no longer high enough to meet the level needed to make claims.

The companies interviewed pointed out that FDA’s fiber definition is now one of the strictest in the world. “In terms of the definition of dietary fiber, up until now the United States was probably one of the least stringent in terms of dietary fiber. Now, all of a sudden, we’ve gone to the top of the list,” Mehta says.

These recent regulatory challenges have not stopped fiber companies from innovating. At the IFT trade show, fiber suppliers showcased sophisticated food and beverage prototypes with high fiber content. Tate & Lyle’s Gaul sampled a savory summer mango gazpacho with 9 g of fiber, an excellent source thanks to the combination of Promitor soluble corn fiber as well as PromOat beta-glucan. Fibersol showcased its new Fibersol-2 L ingredient, a liquid version of the company’s original Fibersol-2 soluble fiber powder that Dougherty said enables easier bulk handling and is easier to incorporate in certain types of products.

The company sampled Fibersol-2 L in prototypes previously not achievable with Fibersol-2, including gummies with 54% fiber content and a chewy honey peanut butter nougat bar. The bar combines Fibersol-2, which provides firmness, and Fibersol-2 L, which lends plasticity. These soluble fibers are also being used to replace added sweeteners, to reduce calories, and to boost satiety.

All suppliers said they hope FDA provides more clarity “as soon as possible,” Mehta said, because this is very irritating for the whole industry. “Everyone is nervous,” she continued, “and at the end of the day, it’s the consumer who is suffering because the consumer will get less fiber. That is the consequence of all that, because if you cannot claim it as a fiber, the fiber gap will be bigger.”

For more IFT 2016 show coverage, visit www.NutritionalOutlook.com.

**Herbalife Agrees to $200 Million FTC Settlement, Will Restructure Multilevel-Marketing Business**

The FTC reached a $200 million settlement with direct-sales firm Herbalife on July 15 that requires the nutritional supplement, weight-management, and personal care marketer to restructure its multilevel-marketing business model.

The FTC’s complaint against Herbalife accused the company of misleading consumers by suggesting those consumers could earn significant income by selling Herbalife products; compensation, however, was based on whether consumers were then able to recruit others into selling Herbalife products and was not based on actual product sales.

“Defendants represent, expressly or by implication, that Herbalife distributors are likely to earn substantial income, including significant full-time or part-time income, from pursuing a retail-based business opportunity. In reality, however, Defendants’ program does not offer participants a viable retail-based business opportunity,” the FTC complaint stated.

In announcing the settlement, the FTC did not classify Herbalife’s business as a pyramid scheme. But, the agency stated, “Herbalife is going to have to start operating legitimately, making only truthful claims about how much money its members are likely to make...” The $200 million redress will largely compensate those who were selling Herbalife products, the majority of whom the FTC said earned “little or no money.”

FTC’s press release on the settlement also noted a high turnover of Herbalife’s distributor base, with nearly half of distributors quitting yearly after they failed to make a profit. Those who opened Herbalife Nutrition Clubs, for instance, on average spent $8,500 of their own money to do so, with approximately 57% of those club owners either making no profit or losing money in the end. Under the settlement, Herbalife agreed to change its system to base compensation primarily on retail sales. The FTC stated, “It mandates a new compensation structure in which success depends on whether participants sell Herbalife products, not on whether they buy products.”

On Herbalife’s website, Herbalife chairman and CEO Michael O. Johnson issued this statement: “With our recent settlement with the FTC, we and our 4 million preferred members and distributors are focused more than ever on helping people achieve their goals—whether by losing weight, living a healthy lifestyle, or earning some extra money when and how they choose through our direct-sales business model. The terms of the settlement in no way change our business model as a direct-selling company but simply build upon current procedures. Because of this, we are confident and excited about the future of our business.”
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From the Marketer’s Chair

As natural products marketing firm BrandHive celebrates its 20th anniversary, co-founder Jeff Hilton talks about what’s changed in the natural products space.

By Jeff Hilton, Co-Founder and Chief Marketing Officer, BrandHive

This year marks BrandHive’s 20th anniversary as a branding and marketing agency dedicated to the healthy, natural, and organic space. Hard to believe it has been that long. In some ways, it seems like only yesterday that Matt Aller and I hung out our shingle. But it has been and continues to be a wild, crazy, and fun adventure, and I am grateful to be part of such a vibrant and authentic community.

I’m often asked how I think, from my vantage point, the market has changed over the past 20 years. From a marketer’s perspective, then, here are a few observations.

Less Breakthrough Product Innovation
Not to open on a down note, but I miss the days of wide-eyed optimism when companies in our industry were run by founder entrepreneurs who championed new technologies and ingredients, put profits back into their companies, and believed in the power of their products to help people and deliver real health benefits. My point is not that these giants are not still out there, but frankly, there are fewer of them. Our industry was less politically correct when we started BrandHive, and sometimes I miss that free-wheeling spirit and unquenchable fire.

More Product Science and Validation
There has been a very important and long-awaited shift toward more investment in human clinical research that is slowly but surely making a difference in the natural products marketplace. Consumers and retailers are demanding proof of concept, and that is a good thing. Shame on fly-by-night companies that spring up to take advantage of unsuspecting consumers and then make off with the profits. Part of me believes that karma will find its way around to bad players. But overall, the trend toward greater validation is strong and moving in a good direction.

Evolution of Consumer 2.0
The consumer landscape has turned completely upside down. Control is no longer with the marketer; it is now in the hands of the consumer. Consumers have all the options. They hold all the cards. And social media has given them strength in numbers. They are indeed empowered beyond what any of us imagined. So we deal with it. And we play the game their way. Boomers have disposable income and they want to not only live forever, but be healthy forever. Millennials want to make the most of life now and are increasingly active in their pursuits, fueling growth in the active-nutrition market, which shows no sign of slowing any time soon.

Distribution Channel Lines Are Blurring
We as industry companies can no longer segment consumers by shopping channel. Consumers’ purchase activity is fluid and crosses traditional lines. There is no longer a health food store shopper. There are, however, health-aware consumers who shop wherever they need to in order to meet their health and nutrition needs. Loyalty is dead.

We Live in a Four-Screen World
The mobile phone, the desktop or laptop computer, the tablet, and the plasma video screen: these are the four screens in which we live today—and often, we use them at the same time. They don’t compete; they complement each other. They reflect and even create our life experiences. It’s surreal and a bit sobering, but it is the future. Marketers need to embrace that reality.

Since the early 1980s, Jeff Hilton has helped launch and revitalize brands promoting health and wellness. His passion and unmatched industry knowledge have led to innovative and successful marketing strategies that deliver results on time, on budget, and on brand.

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NUTRICOSMETIC INGREDIENTS on the Rise

Nutricosmetics expert Paula Simpson shares which up-and-coming “beauty from within” ingredients she’s most excited about.

BY KIMBERLY J. DECKER

Let’s face it: None of us is getting any younger. And while that news may look like an unwelcome cloud to some, it doesn’t come without a silver lining, particularly for those invested in the nutricosmetics sector. In fact, the aging population, combined with growing disposable incomes and health awareness worldwide, will boost the valuation of the global nutricosmetics market to a whopping US $7.1 billion by 2020, according to recent projections from Transparency Market Research.

This doesn’t surprise Paula Simpson, principal, Nutribloom Consulting (New York and Toronto). Both a longtime expert on the industry and an active participant within it, Simpson believes that a constellation of factors makes now an especially opportune time for nutricosmetics to reach breakout velocity. For starters, she says, “Feeling good is looking good. Lifestyle and wellness are becoming more integrated into how one looks and feels.” Consumers have caught on, and they’re hungry for tools like nutricosmetics that help them build beauty from within.

Indeed, “Topical skincare is no longer the cornerstone of how we nourish our skin,” Simpson declares, adding that the science is there to support consumers’ shift. Cases in point: “The clinical research around the brain-gut-skin axis and the influence of stressed or unbalanced gut microflora on the function and appearance of skin” have received a lot of research attention, she says, and the result is not only a better understanding of how mind, body, and beauty interrelate, but a better crop of nutricosmetics that optimize that relationship. “Sophisticated technologies and manufacturing, along with higher-quality, more efficacious ingredients, are producing more effective products in many forms: pills, beverages, gummies, powders, bars, et cetera,” she says. As an added bonus: “All these forms help improve compliance and ease of use.”

New channels for getting products to people are also broadening nutricosmetics’ reach. “Multi-channels help merge beauty and nutrition,” Simpson notes; meanwhile, e-commerce companies have blended beauty and wellness brands into innovative hybrids that meet consumers where they really live. And just as these brands benefit from the improved access and higher profile that such channels grant, clued-in consumers enjoy “more autonomy and personalization of their beauty and wellness goals,” Simpson says.

That’s no small matter, because autonomy and personalization are bottom lines with the millennials who help to drive interest in nutricosmetics—and help drive new formulation directions. “There’s increasing consumer demand for naturally based solutions and products for beauty that work while reducing carbon footprints, and millennials are really pushing this sector,” Simpson says. And industry has responded: “From vegetarian algae-sourced omega-3 fatty acids and unique actives found in herbs and botanicals to marine-sourced collagen and pre- and probiotics for skincare, understanding how specific nutrients and actives work on the skin from a dietary/supplemental and nutritional perspective has inspired active clinical research in all fields of dermatology, nutrition, and personal care.”

Laying the Groundwork

Move over, collagen; you’re not the only game in town for strengthening skin’s supportive structure. Methylsulfonylmethane (MSM), an organosulfur occurring naturally in a number of foods, is building a track record of studies suggesting it has an important part to play in helping skin look its best.

A double-blind, placebo-controlled clinical trial\(^2\), results of which appeared in late
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2015 in Natural Medicine Journal, looked specifically at the OptiMSM brand of MSM from Bergstrom Nutrition (Vancouver, WA) and found that the compound appears to regulate the expression of key genes responsible for skin health and the prevention of aging skin. Further, supplementation produced statistically significant improvements over baseline in crow’s feet and skin firmness, tone, and texture.

Says Simpson, “As a molecule, collagen is poorly bioavailable and getting a bit overdone in the sense of the marketing of collagen-based products.” What intrigues her about MSM is that “it’s essential to building stable bonds within the dermal collagen/elastin matrix.” Even better, it’s been on the market long enough—mainly in the context of joint health—to build up what she calls “a strong safety and efficacy record.”

Carotenoids

Another ingredient that’s been on the market for some time but is only now achieving heightened awareness for its skin benefits is the carotenoid zeaxanthin. In fact, Simpson calls the antioxidant the ingredient she’s “most intrigued by right now,” and for understandable reasons: For one, she’s a cofounder and formulator for ZSS Skincare, a nutrition-focused skincare system launched in early 2015 as a spinoff of ZeaVision Holdings Inc., a maker of vision supplements based on zeaxanthin. For another, several studies have added heft to anecdotal evidence among the vision supplement’s users that, at higher doses, zeaxanthin improves the condition of their skin, as well as that of their eyes.

Found in everything from leafy greens (including kale, pictured) and yellow bell peppers to corn and eggs, zeaxanthin is suitably natural for today’s mindful skincare shopper. (The ZSS line derives its ingredient from paprika peppers, Simpson says.) And she notes that its benefits stem from the body’s “ability to absorb and use it actively as a strong antioxidant in the skin tissue,” where it evens out skin tone and ameliorates the inflammatory response to environmental stressors like sun and pollution.

Black Is the New Black

As consumers and product developers alike sign on to the notion that “superfoods” aren’t just good for the gut or the brain, Simpson says, “I expect to see more innovative food-based ingredients in nutricosmetic and skincare formulations.”

One super food that’s gotten her attention is the black raspberry, which she says has “higher antioxidant capacity” than either its red cousin or the slightly larger blackberry. But don’t take her word for it; researchers at the University of Agriculture in Krakow, Poland, analyzed the phenolic content and antioxidant properties of extracts of blackberries, red raspberries, and black raspberries grown in Eastern Europe and found that the latter have not only the top antioxidant capacity of the three fruits, but more total phenolics and anthocyanins, as well.3 While the researchers concede that a number of factors “complicates the understanding of the mechanisms and biological effects of polyphenols in humans,” the results certainly don’t hurt the fruit’s super standing.

Beauty Potions

One nutricosmetic trend that’s as much about the delivery as it is about the ingredients being delivered is the rise of drinkable beauty potions. “Tonics, tinctures, and traditional herbal medicines are moving into wellness and beauty in a big way,” Simpson says, and they’re finding inspiration in sources as disparate as traditional Chinese medicine, hipster cocktail culture, and that whole “juicing” thing.

Simpson points to havens like New York City’s Chelsea Healing Arts Center and its storefront Vitality Bar as a place that’s doing it right. The venue not only offers spa treatments and deep-tissue massage, but makes probiotic tonics with the likes of tamarind, kombucha, and chai spices, as well as coconut lattes powered by kava. Where’s the
Two government agents are knocking on the door.

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beauty link? In an interview on the website Well+Good, the Center’s founder, Barbara Close, said, “We’ve learned that clients and spas typically view skin health and healing from the outside, but we know that most imbalances begin on the inside.” The Vitality Bar’s menu, Close said, “allows us to link ingestibles with conditions, from acne to muscle and joint health.”

**Beauty’s Big Themes**

Simpson summarizes what she sees as the future of nutritionally directed beauty:

- “Integrated systems mean that topical skincare is merging with nutritional supplementation for improved results.”
- “More clarity and specificity in features and benefit claims are possible even with less-complex ingredients and formulations.”
- “Higher-quality clinical research is proving product effectiveness for real proof of concept.”
- “Successful products fit readily into consumers’ lifestyles for greater ease of use and, thus, improved compliance.”
- “We’re no longer working within a traditional marketing and advertising model. Varied resources—think social media, YouTube, content marketing, webinars—provide new strategies for educating consumers on product benefits, which allows indie and innovative smaller brands to reach consumers more intelligently and easily.”

**References**


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Imagine the Possibilities
Senior don’t always get as much support as they should when it comes to information about health and nutrition. Over in the dietary supplements space, ingredient suppliers are doing their part to foster more science specifically targeting seniors to demonstrate the benefits of supplements in this important population. It’s increasingly clear that a number of nutrients play a key role in healthy aging, from protein and collagen to probiotics, omega-3 fatty acids, and more.

Still, when it comes to research in seniors, the dietary supplements community can always go further. “I think there’s opportunity for even more research,” said Lara Niemann, marketing director, Americas, for collagen supplier Gelita (Sergeant Bluff, IA), at the Natural Products Expo West trade show back in March. “Certainly, this is the beginning of Gelita’s research path on this.”

When asked if the supplements industry in general is conducting enough studies in seniors, Mike Bush, president of probiotics supplier Ganeden Biotech (Cleveland, OH), said, “You know, we’re not seeing a ton. I mean, some of the microbiome work that’s being done around the world is looking at seniors and what happens as people age. So it’s more part of the general microbiome work that’s being done by governments and universities.”

Supplement marketers must also find the right way to address this key market, without making senior shoppers feel, well, old. That’s why Niemann emphasizes the concept of independence. “Part of the key messaging that can motivate this older demographic is really this topic of independent living, keeping a certain quality of life.” For instance, she advises against marketing the term sarcopenia, or age-related muscle loss, to the consumer. “No one wants to feel like they have a problem or that there’s a condition they’re suffering from. So, promote the positive.”

Marketers should make it their goal to reach out to senior consumers with proven science and ingredients that address the health impacts these consumers are most concerned about. Here are some of the latest research studies on the benefits of supplements for seniors.

**Protein and Muscle Mass**

A National Institutes of Health–funded study published last year looked at the link between higher protein intake in adults over age 50 and lower muscle mass and strength. Examining data from the Framingham Offspring Cohort, researchers narrowed in on the protein intake of 2600 men and women with a mean age of 59. Those who consumed more protein—protein from animal sources, specifically—had higher amounts of lean muscle mass in their legs. Those with very high intakes of plant protein saw high levels of quadriceps strength.

These findings are important because seniors over the age of 50 begin losing 1%–2% of muscle mass each year—otherwise known
as sarcopenia—leading to a higher risk of falls and fractures.

Collagen and Sarcopenia

A British Journal of Nutrition study on Gelita’s collagen peptide ingredient found that older men suffering from sarcopenia who took a 15-g collagen peptide supplement for three months increased fat-free mass and muscle strength and reduced their fat mass. The subjects (53 men with a mean age of 72) also completed 60-minute resistance-training sessions three times per week. Gelita is now marketing this ingredient as BodyBalance.

Gelita’s Lara Niemann explained the significance of the study’s findings. “One of the most important outcomes of the study from my perspective is that we saw an increase in power output, which means an increase in strength. So, think about a 70-year-old man, living longer, maybe frustrated because he wants to be able to do the things that he used to do but he can’t. BodyBalance can be a great supplementation in order for him to maintain a certain level of independence, which means quality of life.”

Omega-3 and Muscle Mass

Fish-oil omega-3 supplements may also play a role in increasing muscle mass in older adults. A university research study published in The American Journal of Clinical Nutrition last year found that 3.36 g of EPA+DHA omega-3 supplementation daily in adults 60–85 increased subjects’ thigh muscle volume, hand grip strength, and one repetition muscle strength, and increased average isokinetic leg muscle power. The six-month study led researchers to conclude that omega-3 supplementation “should be considered a therapeutic approach for preventing sarcopenia and maintaining physical independence in older adults.”

Probiotics and GI Health

A 36-subject crossover study published in The Journal of Nutrition examined the effects of Ganeden Biotech’s Ganeden BC30 Bacillus coagulans probiotic strain on the gastrointestinal profile of healthy seniors aged 65–80. The study found that daily probiotic consumption for one month increased levels of the body’s indigenous stores of the healthy bacteria Faecalibacterium prausnitzii.

Importantly, the study also found that the Ganeden BC30 intervention reduced levels of the inflammation-related cytokine IL-10. Mike Bush explained the significance of this finding on anti-inflammation: “As people age, their gut bacteria shifts to a more inflammatory state.” Stressing that his company’s study was done in a healthy population, he said, “we wanted to see on an antiaging or on a gut health–aging basis what happens with BC30. Fortunately, we had good results.”

Probiotics and Immune Health

As seniors age, their immune systems weaken. A study published in the journal Immunity & Ageing showed that seniors aged 60–74 supplementing with Lesaffre Human Care’s (Marcq-en-Barœul, France) Bacillus subtilis CU1 probiotic strain saw higher levels of the immunoglobulin IgA. According to the researchers, higher levels of IgA help maintain mechanisms that help to resist infections, ‘eat’ bacteria or infected cells, is one of the mechanisms that help to resist infections. Results of this study show that the probiotic Bi-07 5 improved the phagocytic activity of monocytes… and granulocytes…” Markus Lehtinen, PhD, a senior scientist for DuPont Nutrition & Health, commented, “Phagocytosis, by which immune cells

marketing manager, Lesaffre Human Care, in a press release.

Another Study: Probiotics and Immune Health

Publishing in the Journal of Nutritional Science, university researchers found that DuPont Nutrition & Health’s (Kantvik, Finland) Bifidobacterium lactis Bi-07 probiotic strain improved function of the body’s innate immune cells (phagocytes) in elderly subjects. According to researchers, “subsequent statistical analysis showed that consumption of Bi-07 improved the phagocytic activity of monocytes...and granulocytes...”

Mike Bush explained the significance of this study: “Th ese results provide evidence that consumption of B. subtilis CU1 may be a safe and effective prevention strategy to stimulate immune responses and provide long-term support to people at risk of SlgA deficiency, such as the elderly, people suffering from chronic stress/sleep deprivation, professional athletes, etc...” said Elodie Ruffin, probiotics

Pycnogenol and Brain Health

Supplementation with Pycnogenol, a branded French maritime pine bark ingredient, has been shown to improve cognitive function in children as well as college-aged students. The ingredient’s supplier, Horphag Research (Hoboken, NJ), recently announced a new
long-term, 77-subject study\(^7\) showing benefits in adults aged 55–70. Published in the *Journal of Neurosurgical Sciences*, the study found that 12 months of supplementation with 50 mg of Pycnogenol twice daily in this population led to improvements in daily decision-making and memory, as well as improvements in attention span, the ability to deal with people, and the ability to manage finances. Part of this effect may be due to the reductions Pycnogenol achieved in oxidative stress.

### Omega-3s and Brain Health

French researchers at the 8\(^{th}\) International Conference on Clinical Trials for Alzheimer's Disease held in Barcelona Spain last winter reported that omega-3 supplementation may help maintain cognitive health in adults 70 and older with mild cognitive impairment. As part of the Multidomain Alzheimer's Preventive Trial (MAPT), scientists looked at the effects of 800 mg/day of omega-3 fatty acid DHA—combined with nutrition counseling, exercise, and cognitive and social stimulation—over the course of three years in 1700 subjects. Subjects taking this “multidomain” approach (supplementation plus the lifestyle changes) saw a statistically significant improvement in brain metabolism compared to the control group.

### Lycopene and Bone Health

A preliminary animal study\(^8\) announced earlier this year in the journal *Bone* hints that lycopene supplementation may help help reduce ovariectomized-induced loss of bone mass and bone strength in mice with postmenopausal osteoporosis symptoms. The findings are early, but researchers stated that “lycopene treatment in [ovariectomized] rats primarily suppressed bone turnover to restore bone strength and microarchitecture.”

### References

As the U.S. population ages, brain health is top of mind for consumers looking for solutions to maintain their cognitive edge. A 2016 report by the Alzheimer's Association found that 1 in 9 Americans aged 65 or older has Alzheimer’s disease, while 14% of Americans over the age of 71 have some form of dementia. Put another way, every 67 seconds, someone in the United States develops Alzheimer’s disease. The annual number of new cases of dementia (including Alzheimer’s) is expected to double by 2050.

While these numbers are staggering, research shows that dietary factors can play a role in stabilizing long-term cognitive health. Traditional diets, such as those based on Mediterranean or Ayurvedic principles, have been found to be protective of brain health. A recent study found that Mediterranean dietary practices in individuals with age-related cognitive decline are associated with improved cognitive function. Specific ingredients within healthy diets have been shown to have substantial benefits for memory and cognitive health. Some of the most promising elements include healthy fats from fish and olives, polyphenols from fruits and other sources, and curry spices such as turmeric.

**Healthy Fats**

Fatty acids from fish and olive oil are essential components of a Mediterranean diet. Both have shown promise for supporting healthy cognition. In a recent meta-analysis of 21 studies including 181,580 participants, Yu Zhang and colleagues from Zhejiang University in Hangzhou, China, found that increasing dietary fish intake, and incremental intake of docosahexaenoic acid (DHA), was associated with lower risks for dementia and Alzheimer’s disease.

A randomized controlled trial assessed the effects of two different Mediterranean diets on long-term cognitive health versus a low-fat control diet. Led by Elena Martinez-Lapiscina, the researchers found that a Mediterranean diet supplemented with 1 liter of extra virgin olive oil per week was superior to a second Mediterranean diet supplemented with 30 g of mixed nuts per day or the control diet for improved cognitive performance, including on measures of fluency and memory.

**Resveratrol**

Resveratrol is a stilbene compound found in red wine, grapes, and other foods that is often associated with cardiovascular and healthy-aging benefits. Recent studies support a role in improving cognitive function. Resveratrol, the stilbene found in red wine, has been studied as a brain-health intervention in humans and animals.
Research shows that dietary factors can play a role in stabilizing long-term cognitive health.

for resveratrol in various aspects of cognitive health. A. Veronica Witte and colleagues conducted a study in which they administered 200 mg of resveratrol or a placebo daily to 46 individuals aged 50-75 for 26 weeks.6 Resveratrol led to significant improvements in memory and enhanced the function of the hippocampus, one of the primary regions of the brain impacted in Alzheimer’s disease.

A study in mice found that resveratrol supplementation enhanced the animals’ performance on behavioral tests assessing memory formation.7 In this study, researchers from the National Institute of Psychiatry in Mexico gave the mice resveratrol as a component of their diet for 14 days. Resveratrol enhanced the production of new neurons in the hippocampus and increased neural cell survival, indicating the potential benefits of the compound for promoting neuroplasticity and healthy brain aging. Early indications are that this health-promoting component of red wine may have far-reaching benefits for brain aging.

Turmeric
A ubiquitous element of curry in South and Southeast Asia, the spice turmeric is a rich source of pigments known as curcuminoids. These compounds may benefit various aspects of cognitive health. Recently, curcumin has shown neuroprotective effects on neurons of the hippocampus in laboratory studies8, and chronic administration of curcumin to an amyloid beta–induced rat model of Alzheimer’s disease resulted in an improvement in cognitive deficits.9

A randomized, placebo-controlled trial led by Katherine Cox from the Swinburne University of Technology in Melbourne, Australia, evaluated the effects of a solid lipid curcumin formulation (as branded ingredient Longvida from Verdure Sciences in Noblesville, IN) on cognition and mood in healthy adults aged 60-85.10 The researchers found that both working memory and mood were significantly improved after four weeks of treatment with curcumin.

Pycnogenol
An extract from French maritime pine trees, branded ingredient Pycnogenol from Horphag Research (Hoboken, NJ) is rich in antioxidant and anti-inflammatory compounds, including proanthocyanidins and bioflavonoids. Several studies have found that the administration of Pycnogenol to animals following traumatic brain injuries results in a protective effect for brain function.11,12

Recently, Gianni Belcaro from Chieti-Pescara University in Pescara, Italy, led a study aiming to assess the benefits of Pycnogenol supplementation in healthy individuals between the ages of 35 and 55.13 Twelve weeks of supplementation with 150 mg per day of Pycnogenol led to significant decreases in measures of oxidative stress as well as significant improvements in pattern-recognition memory, spatial working memory, and mood. The results indicated that Pycnogenol supplementation may boost cognitive function in healthy individuals.14

Studies suggest the spice turmeric may aid cognition and mood.

Pycnogenol’s anti-inflammatory and antioxidant benefits may affect memory and mood.

Irfan Qureshi is executive director, research and regulatory affairs, for Healthy Directions.
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Minerals continue to highlight the importance of minerals as nutrients that are essential for human health. Mineral deficiencies have been shown to profoundly impact physiological processes; because minerals often work synergistically, the deficiency of a single mineral can substantially hinder critical functions. This is because minerals function as catalysts for the engine that runs the human body.

Minerals play a variety of roles in human health, acting as cofactors for crucial metabolic reactions. They facilitate the generation of vitamins, hormones, and enzymes within the body and contribute to the health of the bones, brain, heart, blood vessels, and other critical systems and processes. Ultimately, all cells require minerals to function properly because minerals participate in enzymatic reactions and facilitate the transport of nutrients across cell membranes.

Among several essential minerals, some with the most interesting recent research include magnesium, zinc, and selenium. Recently published meta-analyses highlight their benefits in metabolic health, male fertility, and in the prevention of heart disease, respectively.

**Metabolic Enhancer**

The essential mineral magnesium is involved in numerous physiological processes as a cofactor for hundreds of enzymes. Its importance is well known for areas including heart and vascular health, bone health, and overall cellular function.1

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Recently, Nizal Sarrafzadegan and colleagues from the Isfahan Cardiovascular Research Center in Iran conducted a systematic review and meta-analysis of studies looking at magnesium’s role in metabolic syndrome. Metabolic syndrome includes a constellation of symptoms consisting of poor regulation of blood sugar, blood pressure, and weight gain, and ultimately may increase the risk of heart disease, stroke, and diabetes.

In total, the researchers included nine studies with 31,876 participants assessing dietary magnesium intake and metabolic syndrome risk as well as eight additional studies looking at serum magnesium levels and metabolic syndrome. Their analysis showed that higher magnesium intakes were associated with substantially lower risk of metabolic syndrome (odds ratio of 0.73), indicating that adequate magnesium intake is essential for protecting against various heart-disease risk factors.

**Fertile Possibilities**

Zinc is a required mineral for cellular metabolism. Zinc plays a crucial role in many diverse processes and is essential for immune health, brain function, and reproduction. According to the Mayo Clinic, up to 15% of couples are infertile, while half of these cases may result from male fertility issues.

Jiang Zhao and colleagues from the Department of Urology at the Third Military Medical University in Chongqing, China, performed a meta-analysis to look at zinc levels in seminal plasma and the correlation with male fertility. After a systematic search of databases for published information, the authors identified 20 studies including 2,600 cases and 867 controls. The resulting analysis found that seminal plasma zinc concentrations from infertile males were significantly lower than those from normal controls. They also found that zinc supplementation significantly increased semen volume, sperm motility, and the percentage of normal sperm morphology, confirming the important role of zinc in several parameters of male fertility.

**Selenium**

Selenium is a mineral that plays a significant role in antioxidant processes in the body due to its presence in selenoproteins. One of the most important families of selenoproteins includes the glutathione peroxidases. These enzymes function to reduce potentially harmful free radicals. Selenium deficiency may make individuals more susceptible to physiological stress. Adequate amounts are essential for efficient physiological function, but excessive amounts may be toxic.

Low activity of glutathione peroxidase enzymes has been reported in heart disease. Therefore, adequate selenium may offer protection against the development of heart conditions.

To evaluate this, researchers led by Xi Zhang at Indiana University (Indianapolis, IN) conducted an analysis of data from 16 identified prospective observational and 16 randomized controlled trials. Their analysis of prospective studies showed a significant benefit to heart disease prevention in a narrow range of blood selenium concentrations between 55 and 145 mcg/L.

Their meta-analysis of controlled clinical trials that ranged from 6 to 114 months of selenium supplementation, however, found no effect on heart disease prevention, questioning the benefit of widespread selenium supplementation for heart health. This research indicates that there may be an optimal target range for selenium’s heart-protective benefits, and further studies may focus on determining what this range is.

**References**


Irfan Qureshi is executive director, research and regulatory affairs, for Healthy Directions.
Quality Control and the Benefits of In-House Manufacturing

Companies who choose to invest in in-house manufacturing may see unique dividends, says one equipment supplier.

BY JENNIFER GREBOW, EDITOR-IN-CHIEF

Selecting a product manufacturer is one of the most important decisions a dietary supplement marketer will make. These days, that decision is even weightier amidst heightened regulatory scrutiny and public attention on the supplements industry at large.

With so much riding on the line, some nutraceutical firms are choosing to bring manufacturing in house in order to control, firsthand, the quality manufacturing of their products. While third-party contract manufacturers are still a valuable cog in the supplement production chain, removing the middleman can yield firms who choose to go in house some unique opportunities, says Ken Langhorn, technical director for mixing and blending equipment specialist Charles Ross & Son Company (Hauppauge, NY).

The Need for Secrecy

Take the guarding of intellectual property. Faced with an ever-widening landscape of competitors, today’s supplement firms increasingly seek to protect their formulations, ingredient blends, and material sources. By keeping the process in house, a company can maintain the utmost secrecy.

“People are more concerned about competitors popping up and copying their products,” Langhorn says. “We see people bring processes in house because they don’t want to send that information to a toll manufacturer where that technology could potentially be shared with other people.” This sharing may not even be done intentionally, he points out. “A toll manufacturer may be producing blends for several different clients, and their knowledge of what’s in one person’s blend compared to another’s may inadvertently cause them to make recommendations that would be a breach of that confidentiality.”

Advanced Machinery Enables Advanced Quality Control

Once a company does make the decision to manufacture internally, the company will need equipment that enables the firm to control quality. Luckily for today’s supplement makers, many types of equipment on the market today come with quality control built in.

Ross’s own mixing and blending technology, for instance, features built-in manufacturing and batch-production documentation controls. If FDA inspectors should knock on a supplement manufacturer’s door, says Langhorn, “the control system knows what was added in the batch record and then creates the batch record of how long it ran, when it was batched, and confirmation of the ingredients. It then stores that information in an unalterable document so that when FDA comes in, they can pull those unalterable documents and see for certain how each batch was processed.”

“It takes a lot of the liability, a lot of the paperwork, out of the equation, and that’s appealing to a lot of customers that have to comply with FDA,” he adds.

Understanding Industry’s Needs

Perhaps one of the most important ways in which equipment suppliers help today’s dietary supplement manufacturers is simply by understanding their needs—their needs for quality control, for regulatory compliance, and for bigger and better production. Langhorn points out that most of Ross mixers and blenders are custom-tailored to a company’s production needs, taking into account such parameters as horsepower, bulk densities, intended (and future) batch sizes, and the diversity of ingredients to be blended, including the ratio of active to inert ingredients.

Not all companies are ready to jump in all at once, of course. Some firms “start off on a small scale and say, ‘We’re going to bring some of this in house.’ And all of a sudden, they’re ramping up to larger blenders to bring it all in house,” Langhorn says.

As conversations around quality and safety continue to develop in the dietary supplements field, equipment suppliers will play a key role in the discussions.
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A study on the effect of this combination on metabolic syndrome (MS) patients was selected for the Nutritional Ingredients University Research of the Year Award. The authors concluded that this combination is an efficacious adjunctive therapy in patients with MS and can modify serum lipid concentrations beyond what is achieved with standard of care.*†

*Panahi Y, et al. Lipid-modifying effects of adjunctive therapy with curcuminoids-piperine combination in patients with metabolic syndrome: Results of a randomized controlled trial. Complement Ther Med (2014), Mashhad University of Medical Sciences

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

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.

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.

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
Description
AIBMR is an industry leader in natural products research and consulting, with a mission to put the science behind natural products.

Founded in 1978, AIBMR is the oldest, full-service natural products research institute in the world. With a team of PhD research scientists and Naturopathic Physicians, AIBMR can assist your company with:

- GRAS (Generally Recognized as Safe) 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 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. and foreign regulatory compliance, structure-function claims generation, product label reviews, and more.

At AIBMR, we maintain one of the largest private natural products research library holdings in the world. This collection, managed by a full-time librarian and support staff, allows us to conduct timely and cost-effective scientific literature reviews.

The breadth of knowledge and services available through AIBMR Life Sciences allows for convenient, centralized, and affordable support with your nutraceutical research and product development needs. Our clientele are 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 or give us a call to learn more.

Additional Products and Consultation Services:
- cGMP consulting
- Product R&D
- Compliant Product claims development and substantiation
- U.S. regulatory compliance
- Nutraceutical products consulting
- Functional Food product consulting
- Monthly Service Contracts
- CRO Services
Akay Flavours & Aromatics Pvt. Ltd.

AKAY, an innovative ingredient manufacturer, showcases a unique array of patented ingredients backed by clinical studies & peer-reviewed publications. Spiceuticals®, the nutraceutical division of AKAY, unlocks the nutritional secrets of spices through years of research and generated novel functional ingredients for high-end applications. AKAY developed a patented GREEN technology - FenuMAT™ – for the targeted oral delivery of phytonutrients.

AKAY is one among the handful of companies globally that takes accountability for growing crops organically to provide Nature to Nutraceuticals traceability. With FSSC 22000, ISO 9001, ISO 14001, ISO 17025, BS OHSAS, SA 8000 & GMP certifications, AKAY deliver Kosher and Halal products which are non-GMO and gluten free. AKAY has world-wide presence with sales offices and warehouses in USA, Germany, China and Japan.

Our nutraceutical ingredients includes CurQfen® (blood-brain-barrier permeable free curcuminoids delivery (45.5X) with clinical trials), Capsifen® (safe colonic delivery of chili capsaicin), Clovinol® (natural glutathione boosting and hangover reduction by faster acetaldehyde elimination & detoxification), FenuSMART® (alleviates post-menopausal symptoms), elcocozen™ (natural bioactive micronutrients), NutriSPICE® (water soluble bioactive phytonutrients), StabilROSE™ (natural antioxidants) and many more.

A NEW GENERATION BIOAVAILABLE CURCUMIN

CurQfen ACTS UPON STRESS...

CLINICAL VALIDATIONS FOR :
- STRESS, FATIGUE, ANXIETY
- OBESITY, CARDIAC HEALTH
- INFLAMMATION, HEPATOPROTECTION
- LIVER HEALTH, NEURO INFLAMMATION
- NEUROPROTECTION, DETOXIFICATION

NATURE TO NUTRACEUTICALS

Unlocking the nutritional secrets of spices...!
- Patented processes & products
- FenuMAT® - Green platform for phytonutrient delivery
- Customized delivery forms and beadlets

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.
American Laboratories Inc. (ALI) was founded in 1967 to provide enzymes, proteins, and flavors to our valued customers, always with the motto “Quality Ingredients You Can Trust.” More than 49 years later, we still hold true to the same principle. Since our founding, we have expanded our operations to include three separate facilities that total over 150,000 sq ft of production, warehouse, and office space. ALI strives for the highest quality, accuracy, and customer service. Our quality-assurance department conducts microbiological, chemical, and analytical tests at our in-house laboratories. Our staff ensures compliance with FDA, USDA, EU, Health Canada, FDA-cGMP, and various other standards. ALI is proud to be known as an industry leader and currently offers more than 300 products to various industries in over 50 countries worldwide, including the Nutrition, Food, and Animal Health markets.

**Products**

**Enzymes**—Pancreatin, Pepsin, Bromelain, Papain, Fungal, Custom Fungal, Trypsin 1:2500, and Enzyme Blends

**Flavors**—Beef, Pork, and Chicken Liver Powders

**Proteins**—Beef & Pork Stocks, Albumin Concentrate, Collagen Hydrolysate

**Peptones**—Casein Hydrolysate, Microbiotone, and Proteose Micro

---

**50 Years of Enzymes**

American Laboratories, Inc. is entering our 50th year of manufacturing enzymes, proteins and flavors. Here are three product lines we have manufactured from the beginning:

**Pepsin**

Hydrolyzes proteins within the acidic environment of the stomach

**Pancreatin**

Naturally contains Protease, Amylase and Lipase Enzymes for the breakdown of proteins, starches, and fats

**Ox Bile**

Naturally occurring Cholic Acid works to digest Fats/Lipids

---

**ENZYMES:**

Pancreatin 1x, 4x, 6x, 8x

Trypsin 2500

Pepsin 1:3000, 1:10,000

Papain & Bromelain

Custom Enzyme Blends

Fungal Enzymes

- Alpha-Galactosidase
- Amylase
- Cellulase
- Lactase
- Lipase
- L. acidophilus
**Description**

Alkemist Labs is an independent contract testing laboratory specializing in plant authentication, botanical ingredient identification, and quantitative analytical services to the Food & Beverage, Nutraceutical, and Cosmeceutical Industries.

As a pioneer in natural products testing, Alkemist has assisted thousands of natural product companies approach, achieve, and maintain cGMP compliance. The company’s mission to bring transparency to all areas of natural products industry testing includes education tools designed to demystify testing and help companies get accurate results to support regulatory compliance and illustrate their quality commitment to consumers.

**Services**

Alkemist Labs offers clients a wide range of specialty research services to evaluate the identity, purity, and quality of botanical raw materials, dietary ingredients, and finished products.

Alkemist Labs specializes in routine QC/Compendial testing, method development, validation/verification services, and dedicated research services. Alkemist Labs offers high-throughput HPTLC analysis for Botanical Ingredient Identity Testing of whole herbs and plant extracts, with a standard 5 business day turnaround time. In combination with HPLC, Microscopy, and our on-site Herbarium, we offer the most reliable technical support and highest-quality services so that companies can achieve and maintain cGMP compliance.

**Specific Services Include:**

**Identify:** Botanical Microscopy, HPTLC, HPLC fingerprinting, Composite Reference Botanicals (CRBs)

**Analyze:** HPLC, GC, UV-Vis, UPLC, and Wet Chemistry

**Verify:** The FDA requires brands to be able to prove their label claims using scientifically valid methods. Alkemist Labs offers custom verification and validation services for their clients’ unique finished products.

**Phytochemical Reference Standards**

Alkemist Labs reference material offerings include phytochemical reference standards from Lyon, France–based Extrasynthese. Reference Standards are used in the measurement of content or presence of the many phytochemicals contained in natural products and have direct impact on the ability to assess safety, quality, and potency of raw materials and finished products.
Confident in your claims?

Minimize uncertainty.
The FDA requires brands to be able to prove their label claims using scientifically valid methods. Armed with the Alkemist Certificate of Analysis you’ll finally have peace of mind that what’s on the label is in the bottle. Why? Because testing natural products is the only thing we do.

ALKEMIST LABS
714.754.4372  ALKEMIST.COM
Alpha Packaging

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, 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. We continue to work on sustainable packaging solutions, including bottles and jars with FDA-approved post-consumer resin (PCR) and lighter-weight options for the nutritional market. Alpha has seven manufacturing plants and one decorating facility in strategic locations across North America, as well as a manufacturing plant in The Netherlands. Alpha offers in-house tool-making capabilities, and can build everything from unit cavity molds to complete high cavity production tooling.

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.

Over the past year, Alpha has added substantial HDPE vitamin packer capacity to the Northeastern US. This includes new molds for a dozen sizes of bottles, ranging from 50cc to 950cc. Sizes up to 300cc are manufactured on brand new equipment using the Injection Blow Molding process. Larger sizes are Extrusion Blow Molded on high-cavitation equipment with brand new blow cavities. Production lines also feature state-of-the-art vision systems and leak detectors.

Major Markets:
- Nutritional Supplements
- Pharmaceuticals
- 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.

Corporate Headquarters
Alpha Packaging
1555 Page Industrial Blvd.
St. Louis, MO 63132

Tel: 314/427-4300; 800/421-4772
Fax: 314/427-5445
Web Site: www.alphap.com
E-mail: marketing@alphap.com

Key Personnel
Jeff Kellar,
President and Chief Executive Officer

David Kunkle,
Chief Operating Officer

Brian McCarthy,
Senior Vice President of Sales and Business Development

Jack Baily,
Executive Vice President of Distributor Sales

Adam Doane,
Vice President of Direct Sales

Marny Bielefeldt,
Vice President of Marketing
Alpha delivers the nutritional packaging you need, no matter where you need it.

At Alpha Packaging we have a habit of answering our nutritional customers questions with a resounding YES! Uninterrupted supply chain? YES. Strategically-located facilities? YES. Consistency of product? YES. Extensive product line? YES.

Whether you market your supplements in tablet, capsule, powder, liquid or gummy form, we deliver exactly what you’ll need from our eight North American locations, or our European plant. No one serves more of the market than Alpha ... meaning you can always expect to get YES for an answer.

Visit our website for samples, or call your Alpha sales rep for pricing.

Stock Bottles  Custom Molding  Decorating  Spray Frost
At only 0.3 kcal/g, AllSweet™ Allulose Natural Sweetener provides a clean, satisfying sweetness to your beverage, bakery, frozen, confectionery, and dairy applications. AllSweet™ performs like sugar in formulations and delivers the syrupy mouthfeel your reduced-calorie consumers crave.

CherryPURE® Tart Cherry powder is the premier tart cherry material in the marketplace and the only tart cherry source backed by ingredient-specific clinical studies. Texas A&M recently completed two sports nutrition–based human clinical studies focusing on recovery from intense resistance and endurance training.

VegiSurge® and GuaranaSol® are 100% soluble, all-natural caffeine sources that are perfect for clean sports nutrition, ready-to-drink, and powdered beverage formulations. Natural caffeine provides a clean label and long-lasting energy benefits over synthetic materials containing solvent residues and contaminants.

The fiberSMART™ collection of premium novel fibers is founded in non-GMO, plant-based constituents that exhibit low glycemic response and prebiotic effects. Available in syrups and powders, fiberSMART™ is a continually evolving portfolio from Cocoa, Tapioca, Barley, Lentil, and others soon to be announced. fiberSMART™ syrups feature superior binding properties that maintain low water-activity levels, increase production yields, and maximize product shelf life. The superior solubility of fiberSMART™ powders delivers the flexibility to enhance any formulation.

Patent-pending EatLess™ fermented satiety complex has been one of the hottest ingredients in the Asian Diet marketplace over the last several years. Backed by multiple human and animal studies, EatLess™ has been shown to suppress appetite by impacting neuropeptide and hormone levels tied to appetite.

We are proud to partner with Solutex out of Spain, one of the premier Supercritical producers in the world. Rising above the competition, Solutex takes omega-3 oils to a higher level. We offer both EE & TG forms in essentially any ratio over 70%.

Omega-7 fatty acid, purified to express high levels of Palmitoleic Acid (C16:1n7). Palmitoleic Acid has been shown in multiple research studies to promote cardiovascular health and attack metabolic syndrome. Provinal™ is now available as a premium oil derived from a sustainable fish source. Provinal™ is ideal for cholesterol, cardiovascular, diabetes, and weight-loss formulas.

Aronia, “the little purple berry that packs a nutritional punch,” has long been considered one of the richest plant sources of highly functional phenolic phytonutrients on the planet. With research ongoing, the phytochemicals within Aronia have been shown to exhibit strong antioxidant and anti-inflammatory properties.
A NEW DAY FOR FIBER

Premium Soluble Novel Fiber Options

- fiberSMART™ Cacao Berry Powder
- fiberSMART™ Organic Tapioca Fiber
- fiberSMART™ Barley Beta Glucan

The fiberSMART™ collection of premium novel fibers are founded in non-GMO, plant-based constituents that exhibit low glycemic response and prebiotic effects. Available in syrups and powders, fiberSMART™ is a continually evolving portfolio from Cocoa, Tapioca, Barley, Lentil and others soon to be announced. fiberSMART™ syrups feature superior binding properties that maintain low water activity levels, increase production yields and maximize product shelf life. The superior solubility of fiberSMART™ powders delivers the flexibility to enhance any formulation. With specifications backed by validated AOAC testing methods, and Organic certification for many, fiberSMART™ should be the staple “go to” fiber for R&D groups that develop snacks, nutrition bars, sports nutrition, drink mixes, cereals or baked goods.

WWW.ANDERSONGLOBALGROUP.COM
Applied Food Sciences Inc. (AFS) specializes in the research and development of functional ingredients for use in food, beverage, and supplements. AFS specializes in the category of natural caffeine, offering their latest development, PurCaf® Organic Caffeine. This 90.5%-caffeine extract is a super clean, non-GMO water extract from green coffee that is self-affirmed GRAS.

**PurTea™ Organic Green Tea Extract**
Highly water soluble, organic source of energy that removes harsher compounds so it is less astringent and easier to formulate with in beverages.

**JAVA.g™ Green Coffee Extract**
Innovative product profile that combines the potent health benefits from green coffee antioxidants with the naturally occurring caffeine from coffee.

**AMATEA™ Guayusa Tea Extract**
Amazonian super-leaf contains a unique blend of caffeine and polyphenol antioxidants. AMATEA™ provides a clean, “focused energy”.

**PurCaf® Organic Caffeine**
Organic energy boost that can be added in any beverage without impacting the sensory profile.

**Key Personnel**
- Jackson Zapp, VP of Innovation
- Chris Fields, VP of Scientific Affairs
- Brian Zapp, Director of Marketing

**Corporate Headquarters**
Applied Food Sciences Inc.
8708 Congress Ave., Ste. B290
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Fax: 512/732-8301

Website: www.appliedfoods.com
E-mail: customerservice@appliedfoods.com

**Description**
Applied Food Sciences Inc. (AFS) specializes in the research and development of functional ingredients for use in food, beverage, and supplements. AFS specializes in the category of natural caffeine, offering their latest development, PurCaf® Organic Caffeine. This 90.5%-caffeine extract is a super clean, non-GMO water extract from green coffee that is self-affirmed GRAS.
Arista Industries

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.

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.
Description
AstaReal Inc. is an industry leader in the research, development, and production of Natural Astaxanthin from *Haematococcus pluvialis* microalgae. The company grows its algae at state-of-the-art indoor sites in Sweden and Washington State, USA. Both AstaReal facilities utilize environmentally friendly and ultra-pure photobioreactor cultivation technology to ensure the highest-purity astaxanthin product available. The company’s globally recognized brand is AstaReal®. The company maintains inventory of 10% astaxanthin oleoresin, 2% astaxanthin extract powder, 1% water-soluble astaxanthin liquid, and custom astaxanthin softgels at its GMP-compliant Burlington, NJ, facility. Additionally, AstaReal offers red palm Tocotrienol in 50% oil powder form. The company serves the North American and South American dietary supplement, functional food, beverage, and cosmetic markets. AstaReal Inc. is part of a global group of subsidiaries dedicated to the worldwide development of natural astaxanthin and is wholly owned by Fuji Chemical Industries Company, Ltd., of Toyama, Japan.

Products
**AstaReal® L10:** 10% Astaxanthin Oleoresin – Ideal for softgel or hard capsules. Can be blended as well as a standalone formulation.

**AstaReal EL25:** 2.5% Astaxanthin Extract Powder – Ideal for blending, capsule filling, and powder beverages.

**AstaReal® P2AF:** 2% Astaxanthin Extract Powder – Ideal for capsules, tablets, direct compression, and powder blends.

**AstaReal® CLEAR100:** 1% Water-Soluble Astaxanthin Extract – Ideal for ready-to-drink (RTD) beverages, food, and liquid nutraceutical supplements.

**AstaReal® Custom Softgels** – Ready-to-bottle bulk softgels are available in various potencies, and custom formulas are also an option.

**TocoTrol L50P:** 50% Tocotrienol Oil – Ideal for dietary supplements, easy to encapsulate, and blends well with other oils.
Producer of the World’s Purest Natural Astaxanthin

Vision Health

Muscle Health

Skin Health

Heart Health

AstaReal®
The Most Researched and Recognized Brand.
Ask for it by name!

Tel: 609.614.6904 or 877.2.ASTA.USA | www.astarealusa.com | contact@astarealusa.com
**Description**

Axiom Foods, the world’s largest and most innovative source for organic, chemical-free, hexane-free and allergen-free Oryzatein® Whole Grain Brown Rice Protein, now produces an even more comprehensive line of all-natural ingredients.

Oryzatein was the first food grade, chemical-free 80% whole grain brown rice protein to hit the world market. Now, not only are emulsified and soluble rice protein options being introduced, but our rice protein is now clinically shown to be as beneficial as whey protein at building lean muscle and power, plus aiding exercise recovery. We are constantly increasing our production capabilities, with additional factories in development.

**Products**

Now FDA GRAS, our whole grain brown rice ingredients are non-GMO, all-natural, chemical-free, hexane-free, allergen-friendly, and traceable to the farms. Many of our ingredients are available in both organic and identity preserved options.

**Rice Non-Dairy Milk • Rice Bran**

Our Plant Proteins are a fantastic alternative to whey protein boasting a complete amino acid profile while being inherently lower in cholesterol and sodium, often raw, always chemical and hexane-free, easily digestible, part of a clean label, all-natural, more earth friendly, and most importantly allergen-friendly.

Our proprietary, all-natural, organic enzyme-based fermentation process breaks down whole grain brown rice starches and coconut palm blossoms, resulting in very versatile and relatively healthy sweeteners, making a great alternative to hexane-extracted corn solids and syrups and heavy metal-intense rice syrups.

**Rice Syrup Solids • Coconut Palm Sugar**

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**Corporate Headquarters**

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Los Angeles, CA 90025

Tel: 310/264-2606

Fax: 310/857-6747

Web Site: www.axiomfoods.com

E-mail: info@axiomfoods.com

**Key Personnel**

David Janow

President/CEO

E-mail: davidjanow@axiomfoods.com

---

**Manufacturing Since 2005**

1.800.711.3587

AxiomFoods.com
Balchem

Human Nutrition and Pharma manufactures and sells Albion Minerals, our brand of scientifically validated chelated minerals, and VitaCholine, our brand of the essential nutrient choline. Both brands provide premium ingredients that offer superior delivery of health benefits and are built on strong science and innovative technologies recognized worldwide for their quality, efficacy and safety. Contact us to learn how we partner with customers to deliver key nutrients into a variety of applications across the Food, Supplement and Pharmaceutical industries.
Barrington Nutritionals

Description
Recognized for 25 years for our commitment to quality, reliability, and unparalleled customer service, Barrington’s diverse product portfolio serves the nutraceutical, pharmaceutical, and functional food industries. Our focus is on vitamins, minerals, carotenoids, excipients, and specialty ingredients that conform to, or exceed, the latest compendia of quality standards. Innovative partners with state-of-the-art manufacturing facilities, coupled with the convenience of nationwide warehousing, provide our customers exceptional sourcing and problem-solving capabilities. We partner with integral manufacturers in the industry and accept only top-of-the-line ingredients that allow Barrington to lead the way to better health and wellness. We are faithful to doing what is right for our customers, partners, and industry.

Key Product Categories
- Amino Acids
- Antioxidants
- Carotenoids
- Enzymes
- Excipients
- Herbal Extracts
- Minerals
- Proteins
- Hemp Stalk Oil
- Specialty Ingredients
- Sweeteners
- Vitamins

Major Markets
- Functional Foods and Beverage
- Gluten Free
- Nutritional Supplements
- Personal Care / Beauty from Within
- Pet Food and Health
- Pharmaceuticals

Specialty Products
ICL-IP Dead Sea Periclase’s full line of Ultra-Pure:
- Magnesium Oxide
- Magnesium Carbonate
- Magnesium Hydroxide

Divis Laboratories’ full line of:
- Beta-Carotene
- Lycopene
- Lutein
- Vitamin D3

AstaPure™ Natural Astaxanthin is available in several market forms

Nisso’s Hydroxypropyl Cellulose, USP and FCC

Huakang’s full line of:
- Xylitol
- Maltitol

Gadot’s full line of:
- Fully Reacted Mineral Citrates
- Crystalline Fructose
- Specialty Minerals
- Phosphates

J.M. Huber’s full line of:
- Calcium Carbonate
- Specialty Silica

PureFruit Monk Fruit Extract

Accent Microcell’s full line of:
- Microcrystalline Cellulose
- Croscarmellose Sodium

Verdant Oasis’ Phyto-Rich Hemp Stalk Oil

Vernon Walden’s full line of Vitamins A & E

Regenasure® Vegetarian Glucosamine
“Celebrating 25 years of quality ingredients and service.”

800-684-2436
www.BarringtonNutritionals.com

Naturally Better...
Leading The Way To Better Health & Wellness.
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
Since our founding in 1972, Beehive Botanicals has strived to give our customers a quality product in a timely manner at a fair price.

We hold Kosher, Organic, and NSF GMP certifications, as well as Canadian site license. We welcome third party review and audit of our facility and SOPs to demonstrate our compliance.

**Manufacturing Capabilities**

Beehive Botanicals 44 years in this industry enables us to manufacture your product to meet FDA compliance. Our high speed encapsulation, blending, powder and liquid filling equipment ensure we meet your deadlines.

**Raw Materials**

Beehive Botanicals has extensive experience exporting to countries all over the world. We began exporting to Europe in 1972 and since then have exported into most of the major countries. We can help you with export documentation to any country you market your products. Raw Material supplier of Pollen, Propolis and Royal Jelly.

Beehive Botanicals is:

- Dedicated to Purity, Integrity, and Quality since 1972
- The largest dealer of bee propolis in North America
- A member of the American Apitherapy Association
- A member of the American Herbal Products Association
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

**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.

**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, 120,000-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 300 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.
Description
A full-service supplier of dietary supplements, functional food ingredients, dry beverage ingredients, custom formulations, and premixes. The Bioactive Resources management team has more than 50 years experience in the nutraceutical industry. Our quality control and quality assurance department includes FTIR identification tests, in-house microbiology, density, moisture and particle analysis. We are NSF, Kosher and Organic Certified.

Manufacturing Capabilities
- Blending
- Milling
- Sieving
- Particle reduction

Products
- Fruit and vegetable powders
- Fruit juice and vegetable juice powders
- Botanical powders
- Botanical extracts
- Water-soluble ingredients for beverages/snacks/bars
- Smoothie and shake mixes in bulk

Value-Added Services
- Sterilization By: Heat/Steam treatment
- R&D food lab
- Microbiological testing
- Custom formulation and premixes
- Identity testing by FTIR
- Physical testing

Industries Served: Nutraceutical, food and beverage, pet food, and cosmetic.

Clients Served in: USA, Canada, Africa, Asia, Australia and Europe.
ANNUAL SUPPLIER PROFILE

BIO-CAT
Enzymes Improving Product Performance

Description
For over 25 years, we have dedicated our business to providing customers with the very latest enzyme technology and custom formulations. Our extensive range of products, from single to multi enzyme blends, service food, beverages, dietary supplements and other commercial markets. BIO-CAT maintains an ISO 9001:2008 certified facility featuring state-of-the-art laboratories for scientific research, product development and on-site quality testing to better serve customers.

Our enzymes and ability to perform enzyme custom formulations provide you with efficient, cost-effective means to achieve your goals. BIO-CAT’s line of proteases, cellulases, amylases, and other enzymes are food-grade certified and a wide variety are non-GMO. We work closely with you to address your specific goals and application criteria.

Capabilities
- 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
  - Quality Control (QC) lab conducts testing, assuring strict quality standards are met
- Powder and Liquid Packaging
- Refrigerated Storage and Warehouse

Corporate Headquarters
BIO-CAT
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
Ed Schuler
CEO and Founder

Chris Schuler
President and Founder

Chris Penet
Vice President

You are no longer limited by the traditional probiotic rules.

Heat resistant
Shelf stable
Highly concentrated
No refrigeration required
GMP certified US facility

OPTI-BIOME™ Bacillus subtilis MB40 is a naturally occurring, non-GMO probiotic that will withstand extreme temperatures.

Contact BIO-CAT Microbials to learn how OPTI-BIOME™ Bacillus subtilis MB40 can be incorporated to preserve your label claims without overformulation in a wide array of dietary supplements and food products.

877.959.4403
www.bcmicrobials.com

877.959.4403
www.bcmicrobials.com

BIO-CAT Microbials is an affiliate of BIO-CAT, the industry leader in custom blending enzyme technology.
Blue California
A Perfect Blend of Science and Nature

About Blue California
Blue California is a BRC-certified manufacturer of highly purified botanical extracts and specialty ingredients. We are committed to establishing the highest industry standards for our natural ingredients using the best raw materials from around the world. Our innovative approach to product research and development, and the quality and value of our ingredients, have earned us recognition within many industries. We offer full R&D services, from concept to full-scale ingredient production and finished products. We are proud to meet our customers’ demand for validated quality and better value.

Innovation and R&D Services
Blue California offers extensive R&D services to the nutraceutical, food, cosmetics, and flavor industries for the development and manufacture of unique natural ingredients, from isolated, high-purity single compounds to complex botanical extracts based on our customers’ specifications and requirements.

Quality Control
Our certificates of analysis are based on assay results from our in-house laboratories and independent validation for active ingredients, heavy metals, pesticides, and residual solvents. Third-party lab reports are available to customers upon request.

Unique Ingredients
Blue California uses innovative biotechnologies and processing systems, including plant extraction and fermentation, to produce safe and efficacious ingredients free of pesticides and other contaminants that meet the strictest quality and regulatory requirements for the different industries and markets we serve.

Stevia Extract – Reb-A 99%
Good&Sweet®, Blue California’s trademarked high-purity Reb-A, received the FDA’s GRAS notice in 2009 confirming this zero-calorie sweetener as a safe food ingredient. Reducing sugar calories without sacrificing taste is a major step in the right direction to help children eat healthier foods and snacks. Reduce calories and add a little sweetness!

L-Theanine 98%
L-TeaActive®, Blue California’s trademarked L-Theanine, reduces stress and anxiety safely, induces relaxation without drowsiness, supports mental alertness, concentration and productivity. Ideal for functional beverages and products for mood enhancement, memory and concentration, weight loss (helps reduce anxiety associated with dieting) and energy drinks by reducing the negative side effects of caffeine.
BioCell Technology

Description
BioCell Technology is in the business of researching, developing, branding, and distributing innovative, science-based raw material ingredients that have applications in nutrition, health, and beauty. The company does not sell finished products, but rather licenses its branded ingredients to leading consumer packaged goods companies for use in their finished products. As a steward of quality and integrity, we believe that licensing is the best way to ensure the quality, safety, and efficacy of the innovative finished products that contain our branded ingredients in the market. Each of our branded ingredients has a trademarked logo of authenticity that is proudly displayed on the labels of finished products utilizing BioCell Technology ingredients and marketed by leading consumer packaged goods companies under their own brand names or formulas.

Services/Products:
BioCell Collagen®
BioCell Collagen is a science-based, clinically tested dietary ingredient that promotes active joints, youthful-looking skin, and healthy connective tissues. Unlike other collagen and hyaluronic acid ingredients on the market, BioCell Collagen contains a patented composition of naturally occurring hydrolyzed collagen type II, 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 supports the body’s regenerative ability to maintain healthy connective tissues, not only to promote joint mobility and youthful-looking skin but also to protect and help the recovery of musculoskeletal tissues such as tendons and ligaments after intense exercise or sports activity. Thanks to a patented BioOptimized™ process, BioCell Collagen was shown to be effectively absorbed by the body. Various studies, including five human clinical trials, support the safety and efficacy of BioCell Collagen. BioCell Collagen is self-affirmed GRAS, holds multiple U.S. and international patents, and is available for both oral and topical applications.

i-Sabi™ Wasabia Japonica
i-Sabi™ is a natural dietary supplement made from the rhizomes of pure Wasabia japonica. i-Sabi™ 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 trademarked “The Master Switch to Wellness,” given its ability to stimulate Nrf-2, a genomic master switch that induces a set of genes that are involved in the protection of cells against various stresses and damage. i-Sabi is laboratory tested and has been shown to exhibit the following properties:

• Supports Liver Health and Detoxification
• Supports Healthy Immune Function
• Supports Brain Health
• Supports Cellular Health
• Potent Antioxidant Support

EstraFlex™ CMO Esterified Fatty Acid Carbons (EFAC)
EstraFlex™ is a complex blend of cetylated fatty acids, including cetyl myristate, cetyl myristoleate, cetyl oleate, cetyl palmitoleate, and cetyl palmitate. Mechanism of action of these esterified fatty acids may include the modulation of the immune system in a beneficial way. EstraFlex™ CMO is an all-natural, bovine-derived ingredient aimed at improving flexibility and mobility of the joint.
Feed Your Skin and Joints!

The #1 Selling Collagen & Hyaluronic Acid Ingredient

BioCell Collagen® is a registered trademark of BioCell Technology LLC, Newport Beach, California, USA (Protected by US and International Patents).

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www.BioCellCollagen.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.


BioCell Collagen is a breakthrough patented ingredient that provides a bioavailable matrix of collagen and hyaluronic acid. BioCell Collagen has been clinically proven to promote active joints, youthful looking skin, and healthy connective tissues. BioCell is all about the science of a beautiful and active you. More than 20 published studies support the safety, bioavailability, and effectiveness of BioCell Collagen and its constituents, including four human clinical trials on BioCell Collagen itself. To learn more about the science visit www.biocellcollagen.com.

THE INGREDIENT LEADING BRANDS TRUST
Bloomage Freda Biopharm Co, Ltd.

Description
Bloomage Freda Biopharm Co., Ltd., the leading global manufacturer of Sodium Hyaluronate (HA) with over 20 years’ experience, provides high-quality products, including food-grade, pharmaceutical-grade, and cosmetic-grade HA.

The company is managed strictly in compliance with GMP and ISO 9001 quality-management systems to ensure the reliability and stability of products.

In 2014, Bloomage Freda Biopharm Innovation Center unveiled Gabarelax (gamma-aminobutyric acid, or GABA), a natural relaxation agent created from bio-fermentation technology.

Corporate Headquarters
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Fax: +86 531 82685988
Web Site: www.bloomagefreda.com
E-mail: lvli@bloomagefreda.com

Locations of Other Offices and Facilities
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Tel: 862/485-8343
Fax: 973/428-4925
E-mail: lvli@bloomagefreda.com

Key Personnel
Lois Lu,
Sales Manager
BLOOMAGE FREDA

Bloomage Freda Biopharm Co., Ltd., the global leading manufacturer of Sodium Hyaluronate (HA) with over 20 years experience, can provide high quality products including food grade, pharmaceutical grade and cosmetic grade HA. In 2014, Bloomage Freda Biopharm Innovation Center is presenting our loyal customers Gabarelax™, a natural relaxation agent from bio-fermentation technology.

HAPLEX®
Sodium Hyaluronate (HA)
Joint health & Skin moisturizing

Gabarelax™
Gamma aminobutyric acid (GABA)
Relaxation & Sleep aid

✓ Natural, high safety, high purity
✓ Efficacy tested
✓ Halal and Kosher certified
✓ ISO 9001 and GMP qualified

For more information, please visit www.bloomagefreda.com

Visit us @booth P165
SupplySide WEST
Oct. 6-7, 2016
Bolton & Company
PARTNER WITH THE LEADING INSURANCE BROKER FOR THE DIETARY SUPPLEMENT INDUSTRY.

Bolton & Company founded its dedicated Dietary Supplement Practice Group in 2014, with the objective of giving our clients in this industry access to a team of individuals who are focused on their needs and have experience and knowledge in servicing their accounts.

We handle placing all commercial insurance coverages, including property, workers’ compensation, automobile, international, professional liability, employment practices liability, directors & officers, cyber liability, aviation and environmental insurance.

The formation of the Dietary Supplement Practice Group comes from Bolton’s commitment to enhance the services available to our clients. As the leading insurance broker for your industry, we are constantly trying to keep you abreast of key issues that affect your business.

Bolton & Company’s Greg Doherty, CPCU, ARM, has a rich tradition since 2001 of protecting the interests and exposures of dietary supplement companies, including:

- Raw Materials Suppliers
- Contract Manufacturers
- Wholesale Distributors/Retailers
- Formulators
- Testing Labs
- GMP Consultants and Other Industry Specialists

Greg sets the standard for a nutraceutical product liability insurance broker and has published articles on dietary supplement product liability insurance and related topics.

Expertise Above & Beyond

You expect that your broker will deliver a product liability policy with the best possible coverage. At Bolton, that’s a given. Being specialists in the industry means we dig deeper. We’ll help you navigate business issues such as:

- The impact of GMP certifications on insurance premiums
- The availability of false advertising insurance
- Whether your inventory at a fulfillment house is protected against fire and theft

To discuss these or any other issues further, call our practice leader:

GREG DOHERTY
844.677.2454
gdoherty@boltonco.com
www.gregdoherty.net

Partner with the Leading Insurance Broker for the Dietary Supplement Industry
Bosch Packaging Technology is the world leader in the design and manufacture of nutraceutical manufacturing and packaging systems. Our portfolio includes a complete line of nutraceutical specific capsule fillers, tablet presses, checkweigh, inspection, and a full portfolio of secondary packaging equipment, including cartoners, baggers, flow wrappers, and pouches.

Bosch Packaging Technology has a US head of operations in Minneapolis with sales, engineering, manufacturing, services, and product development. Bosch maintains a substantial stock of parts and supplies for Bosch equipment, as well as 24 hour product support availability.
Bunge North America, Inc.
Grow with confidence, grow with Bunge.

Description
With our 100-year history of oilseed and grain milling in the United States, you may know Bunge as an established global leader in edible oils, milled grain ingredients, and extruded snacks.

While many of our customers have been partnering with Bunge since starting in the food industry, we’ve gone through a significant evolution in the past five years. We’ve expanded both the benefits we can bring to our customers’ products and the specialty products we offer.

We recently introduced Non-GMO Project Verified milled corn ingredients and Non-GMO Project Verified oils. We can supply Non-GMO Project Verified corn grits, meals, flours, and oils on a scale that allows our customers to confidently grow key brands with non-GMO demand. Bunge also offers a scalable supply of Non-GMO Project Verified expeller-pressed soybean and canola oils under the Whole Harvest brand. The oils are minimally refined and ideal for clean label applications.

Bunge’s specialty products include ancient grains and corn masa, popped veggie snacks, and the broadest line of PHO-free shortenings in the industry.

As a vertically integrated partner, we work proactively to deliver the ingredients that brands like yours rely on, and that customers like yours crave. From our farming partners to our foodservice and food brand customers, Bunge helps you grow with confidence.

Corporate Headquarters
Bunge North America, Inc.
11720 Borman Drive
St. Louis, MO 63146, USA

Toll-Free Number: 800-528-4633
Tel: 314/292-2000
Web Site: www.BungeNorthAmerica.com
E-mail: Oilsales@bunge.com; millingsales@bunge.com
CONSISTENT PERFORMANCE, consistent with their values

The most appealing foods and beverages offer both nutritious ingredients and great taste. With expeller-pressed canola and other oils, reliably sourced grains, and non-GMO ingredients. Bunge helps you make good foods that your customers feel good about.
As a botanical extract expert, Cactus Botanics has cultivated a global reputation supplying superior-quality ingredients. The company is U.S. FDA registered and has passed U.S. FDA audit, 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.

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.

Cactus Botanics’ key products are:
- Astaxanthin
- Brown seaweed extract fucoidan
- Zeaxanthin
- Lutein
- Rehmanniae extract
- American Ginseng extract
- Hyaluronic Acid
- Chondroitin Sulfate

Cactus Botanics also develops and markets various fruit juice powders, amino acids, vitamins, and biochemical products for dietary supplements and foods/beverages. 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.
Cepham Inc., based in New Jersey, is a leading manufacturer of quality botanical extracts and specialty ingredients with three NSF-GMP certified manufacturing facilities in India. Our products include a vast array of Indian Ayurvedic extracts and branded ingredients. We draw upon our research experience in natural products to find the most bioactive compounds in herbal extracts.

Controlled-Release Technology
Cepham offers controlled-release delivery technology in the form of beadlets and encapsulations. We develop unique and custom-made extended-release, controlled-release (constant/variable/pH-dependent), and multiphase-release dosage forms.

Our Strengths
- Strong R&D and Quality Team with several publications and patents
- Flexible, multi-product manufacturing plants
- Broad spectrum of extraction facilities, from water and solvent to CO₂ extraction
- Compliance with stringent regulatory, environmental, and safety standards
- Independent U.S.-based R&D Center, Cepham Life Science Inc. (Linthicum, MD), involved in cutting-edge research

Our Branded Products

Alfabin™ Rauwolfia vomitoria Root Bark Extract 99% Rauwolfscine is a unique alpha-2 adrenergic antagonist, effective as pre-workout ingredient*.

Fenudioscin™ is a patent-protected, clinically proven Fenugreek extract containing 22.5% protodioscins (by HPLC) and 70% furostanol saponins (by UV) and can be used in a variety of men's health goals: Maintain healthy sexual function*, Maintain overall energy and vitality*, Promote optimal athletic performance*, Support healthy muscle development*

Furosap™ is a patent-protected, clinically proven extract of Fenugreek for healthy testosterone support*.

GCB70™ is a clinically proven superior Green Coffee Bean Extract enhanced with 70% chlorogenic acids for powerful, stimulant-free, weight-management support.*

Oleano 35™ & Oleano 85™ are unique extracts of pentacyclic triterpenoid Oleanolic Acid found in olive oil effective for circulatory support, vascular health, and athletic performance.* Oleano85™ contains maslinic acid for added benefit*.

Prosprune™ Prunus domestica extract is a patent-protected, clinically proven novel antioxidant matrix which supports prostate health.*

Tri-Rosen™ comprises three combined Rosemary Triterpenes providing all-inherent, all-in-one effects promoting Athletic Recovery*, Metabolic Support*, and Stable Energy*

* These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.
Serving the industry for over 50 years Capmatic® is known as a leading manufacturer of unique packaging machinery specialized in compact Monoblock (Fill, Plug, Cap and Label) solutions for the North American market. Keeping pace with the latest technologies, the equipment is designed and built in compliance with 21 CFR Part 11, Track & Trace Capability, FDA (Food & Drug Administration) regulations and cGMP (Current Good Manufacturing Practice) guidelines.

Its unique European design is known to achieve and verify accuracy in all phases of Filling, Capping & Labeling for the following: Pharmaceutical, Diagnostic, Bio-Medical, Nutraceutical, Cosmetic Health & Beauty Care, Food & Beverage and Chemical Industries.

Capmatic® machines are tailored to meet specific customer request, therefore a broad range of packaging and production options are featured to meet the various requirements of our current and new customers.

Our expertise in Monoblocks (Fill, Plug, Cap, Label), Feeders, Bottle Unscramblers, Bottle Orienters Cap Sorters, Cap Elevators, Bottle Cleaners, Rinisers, Liquid Fillers, Cream Fillers, Micro Powder Fillers, Tablet Counters, Capsule Counters, Soft gel Counters, Desiccant Inserters, Cotton Inserters, Seal Induction, Orifice Reducer, Pluggers, Crimpers, Cappers, Pump Cappers, Over Cappers, In-line Belt Cappers, Rotary Chuck Cappers, Labelers, Pressure Sensitive Labelers, Neck Band, Body Sleevers, Tamper Evident, Safety Seal, Accumulation Tables, and Conveyors, allows us the ability to offer our clients a turn-key solution for all their primary packaging needs.
Making innovation count.

The SF-200 benefits include:
- Up to 300 Bottles Per Minute
- Reduced Parameter Settings
- Programmable Recipes
- 21 CFR Part 11 Compliance
- Repeatable Quick Change Over
- Speed
- Accuracy
- Versatility

STREET FIGHTER™ 200
Dual electronic counter providing the best in speed, accuracy and versatility.

The SF-200 tablet counter is designed to handle various types of products all while being able to adapt to a wide range of container shapes and sizes. It is designed to minimize change-over procedures and provide maximized production efficiency and simplicity. As the Countlab® top-class design, the SF-200 is no doubt the elite tablet counter in the pharmaceutical and nutraceutical industries.

Additional Information, please visit Countlab®'s official website: www.countlab.com

SINCE 1964
OVER 50 YEARS OF MANUFACTURING PACKAGING SOLUTIONS

• Speed and performance criteria is subject to testing with actual samples.

Built For Life!

www.capmatic.com
Capsugel is a global leader in delivering high-quality, innovative dosage forms and solutions to the health and nutrition industry. The company’s Hard Capsule business offers customers the broadest portfolio of products and services. The Dosage Form Solutions (DFS) business utilizes proprietary technologies from formulation to commercial manufacturing, delivering full dosage forms. Capsugel applies Six-Sigma principles throughout the organization to deliver the highest quality standards in the industry. With products and services supported by customer service and technical support teams, Capsugel is committed to outstanding customer experience. Headquartered in Morristown, N.J., Capsugel serves more than 4,000 customers in more than 100 countries. For additional information, visit www.capsugel.com.

**Diverse capsule line** – Capsugel was awarded the first Non-GMO Project verification for plant-based vegetarian capsules—becoming the first empty capsule products to receive this approval in the industry. Additionally, Capsugel’s entire plant-based portfolio is vegetarian, vegan, gluten-free, non-GMO, kosher, and halal certified and contains no preservatives, sugars or starches. Capsugel’s product line includes two-piece gelatin capsules, HPMC and pullulan vegetarian capsules, fish gelatin capsules and innovative liquid delivery solutions. Many sizes and colors are available to meet the industry’s unique needs, as well as custom color and print options to extend brand appeal.

- Vcaps® Plus HPMC vegetarian capsules
- DRCaps® acid-resistant capsules
- Vcaps® vegetarian capsules
- Plantcaps® pullulan capsules
- Coni-Snap® hard gelatin capsules
- DuoCap™ capsule-in-capsule technology
- Licaps® liquid-filled capsules
- OceanCaps™ fish gelatin capsules
- XPress-Fit®/Press-Fit® gel caps
- Coni-Snap® sprinkle capsules

**Liquid-filled capsules** – Meeting the consumer’s preference for liquids and improved bioavailability, Capsugel developed its innovative Licaps® liquid-filled capsules. To help companies build a better supplement, Capsugel provides finished-form, liquid-filled capsules using customers’ proprietary formulas in both gelatin and plant-based options. Customized, targeted delivery and formulation support are also available to help reduce time-to-market and optimize bioavailability. From formulation to packaging, Capsugel offers full turnkey solutions to help take a product idea from concept to consumer.

**Equipment and Support** – Capsugel offers technical solutions to get the job done, including bench top and semiautomatic capsule-filling equipment that help improve your company’s capsule-filling capabilities. Technical support is available to customers to help improve productivity.

**Business and marketing support** – Capsugel can help identify new market and product opportunities in the wellness and specialty markets and works with customers to build solutions to help capitalize on those opportunities. Capsugel partners with customers to provide business solutions, from branding to navigation of regulatory roadblocks.

**Industry leadership** – Capsugel is committed to supporting the quality growth of the dietary supplement industry. Capsugel is active in associations such as the Natural Products Association (NPA), the United Natural Products Alliance (UNPA), the American Herbal Products Association (AHPA), the American Botanical Council (ABC), and more than 25 other organizations globally.
Engineered to protect what stomach acid can steal.

The human body is a thief of potency. Before your formulation can be effective, it has to run the punishing gauntlet of the digestive tract. But there is a way to protect your supplements from the corrosive effects of stomach acid. DRcaps™ capsules from Capsugel. Our innovative, acid-resistant capsules safeguard your ingredients from stomach acid, delivering them to the intestinal tract for maximum impact. In short, they’re the perfect solution for liquid or powder products that need serious protection. See the DRcaps capsule difference at capsugel.com/ihc/drcaps.
Captek Softgel International Inc. is a leading, FDA-compliant contract manufacturer and distributor of specialty softgel formulations in the nutraceutical sector. Captek provides customized, hard-to-make formulations under contract manufacturing relationships for leading global brands. Captek operates high-efficiency encapsulation lines running 24/5, capable of producing over 3 billion softgels annually. Our facility encompasses approximately 85,000 sq ft of production, analytical laboratory, pilot laboratory, and warehousing space. Captek fully complies with FDA cGMPs and has been independently certified by NSF International.

Captek is dedicated to providing quality products to customers worldwide. With the demands of more complex and novel products coupled with increasing regulatory and compliance needs, Captek has set the bar in the dietary supplement industry. Our reputation of providing excellent, quality products and services is evidenced by our longstanding relationships with our brandholders. Captek’s Quality team is actively driven to remain on the leading edge of our industry’s quality initiative. Our Quality Unit is made up of highly knowledgeable, skilled, and experienced subject matter experts from a variety of industries and backgrounds, translating into a robust quality system our customers can rely on.

Our in-depth knowledge of our products, processes, and regulations provides our customers with:
- Technical data pertaining to product manufactured, ranging from components to process and systems
- In-house laboratory testing for all incoming materials and finished products
- U.S. FDA 21 CFR Part 111 compliance
- Timely and complete technical and regulatory support
- Robust quality systems to support all aspects of manufacturing operations and processes

Contact Captek to find out how we can serve you:
- Formulation & product development
- Raw materials sourcing
- Laboratory evaluation & testing
- Encapsulating
- Imprinting & laser etching
- Bottling, labeling, and warehousing
- Certifications & external compliance
With the demands of more complex and novel products coupled with increasing regulatory and compliance needs, Captek Softgel has set the bar in the dietary supplement industry.

**Encapsulating Quality**

**Full Service Partner**
**Complex Formulations**
**Leaders in Innovation**
**Vegetarian Capsules**

Visit us at SupplySide West, booth C121

16218 Arthur Street, Cerritos, California 90703
(800) 638-6883 or (562) 921-9511
sales@capteksoftgel.com / www.capteksoftgel.com
Cargill utilizes consumer insight, regulatory, and scientific expertise to develop products that help customers capitalize on the growing demand for healthier, great-tasting foods, beverages, and dietary supplements. We provide solutions relevant to some of today’s most pressing health concerns. Some of Cargill’s health-promoting ingredients and specialty sweeteners include:

**CoroWise® plant sterols** are an ingredient in many foods, beverages, and supplements. Plant sterols have been clinically shown to lower cholesterol and are backed by an FDA health claim.

**Oliggo-Fiber® chicory root fiber**, known as the “invisible fiber,” can be incorporated into products without affecting taste or texture. Chicory root fiber (inulin) is a prebiotic ingredient that supports digestive health and enhances dietary calcium absorption.

**Regenasure® glucosamine** is the only vegetarian glucosamine produced in North America. Cargill has been a leader in glucosamine research and continually pursues cutting-edge research to support glucosamine, providing valuable support for customers.

**Treha® trehalose** is a functional ingredient that can positively impact the freshness, flavor, and texture of your product. Trehalose is a naturally occurring disaccharide (carbohydrate) that can be found in mushrooms, desert plants, and yeast. Its unique chemical structure remains stable under a wide range of conditions, including high heat, low pH, freeze/thaw cycles, and prolonged storage.

**ViaTech® stevia sweeteners** help food and beverage manufacturers achieve optimal sweetness and significant sugar reduction in even the most challenging reduced and zero-calorie formulations. Cargill’s proprietary taste-prediction model can precisely predict which combination of steviol glycosides delivers optimal taste and sweetness.

**Zerose® erythritol** is a natural, zero-calorie bulk sweetener that looks and tastes like sugar, with high digestive tolerance. It is ideal for food and beverage applications promoting sugar reduction and weight management, and masks the aftertaste of intense sweeteners. It is also non-cariogenic and has been clinically shown to offer Better Tooth Protection™ than other polyols.

**Corporate Headquarters**
Cargill Inc.
15407 McGinty Rd. W., MS 62
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Tel: 866/456-8872
Web Site: www.cargillfoods.com
Relief. That’s what Regenasure® is all about.

The only GRAS, vegetarian glucosamine produced in the U.S.

Now there’s a glucosamine you can really feel good about. Our proprietary manufacturing process results in a product of the highest quality. A secure supply chain ensures consistent availability. And our dedicated glucosamine team will make sure your product-development process is painless.

To request a sample, call 1-866-456-8872 or visit www.cargillfoods.com/regenasure.
Certified Nutraceuticals Inc.
Healthy Living through Innovative Technology

Description
Certified Nutraceuticals specializes in quality antiaging nutritional ingredients and cutting-edge nutraceuticals. Its products are recognized globally for cardiovascular, autoimmune disorder, joint, bone, skin, eye health and cartilage support. Its clinically proven products encourage health and longevity by enhancing the immune system, fighting infections, increasing blood circulation, reducing cell oxidation, protecting the eyes, heart, liver, joints and bones, and improving physical and mental performance. Its products offer thicker hair and stronger nails, glowing skin with more elasticity and moisture retention, and increased metabolic rate for weight control.

Ingredients
- **KollaGen II-xs™** - (Patented) U.S. chicken collagen Type II. This supplement is clinically proven effective for supporting the repair of cartilage and for supporting those with arthritis.

- **H.A.95™** - (Patent Pending) Natural hyaluronic acid sodium extracted from rooster comb (food grade). Benefits for skin, eye function, and healthy joints, and provides lubrication to every cell in the body.

- **Pomegranate ellagic 40™ & 70™** - Patented ellagic acid extract powder providing the health benefits of pomegranate and focusing on cardio health.

- **TendoGuard™** - Patented advanced collagen recovery compound. A dietary supplement formula made of a perfect blend of eggshell membrane and avian sternum cartilage containing collagen Type I, Type II, Type V, and Type X; hyaluronic acid; chondroitin sulfate; and mucopolysaccharides. Naturally contains anti-inflammatory and antibacterial compounds to support tendon recovery and to maintain healthy and strong mechanical properties of tendon, bone, and joint functions. Clinically proven effective.

- **KollaGen IVX™** - (Patented) 100% avian eggshell membrane powder. Powerful compounds account for 15%–20% of the total collagen. (100 parts Type I collagen: 1 part Type V collagen and contains the rare Type X collagen.) Type V collagen is required for assimilation of Type I collagen, while Type X collagen protects other important tissues. Clinically proven effective.

New Launches
- **Telos95®** (Patent Pending) Telomeres Health Support – Clinical research confirms the efficacy of Telos95® for halting telomeres shortening.

- **Revers-e-vine®** (Patent Pending) – A powder extract blend of red wine, red grapes, and grapevines. This extract naturally contains resveratrol, viniferin, and oligostilbenes. These active polyphenols are scientifically proven to reduce cell oxidation and stimulate the SIRT1 enzyme.

- **Olea25®** (Patent Pending) – A granule powder containing a minimum 25% hydroxytyrosol, a powerful antioxidant with an ORAC value of 68,000 (15 times higher than green tea and three times higher than CoQ10). Applications for cardiovascular and DNA health. Our advantage is our unique production and purification technology.
TELOMERE HEALTH SUPPORT

Nobel Prize Winning Research Unlocks the Key Elements that Causes Cell Aging: Telomeres, an Important Piece of the Puzzle of Human Aging!

**BENEFITS OF Telos95®**
- Clinically Proven Effective
- Supports Telomere Health
- Combats Oxidative Stress
- Supports Healthy Longevity
- Halts Telomere Shortening

**TendoGuard™**

ADVANCED COLLAGEN RECOVERY COMPOUND

TendoGuard™ is a proprietary patent #: 8,344,106 dietary supplement formula containing a perfect balance of collagen Type I, Type II, Type V, Type X, Hyaluronic Acid, Chondroitin Sulfate, and Mucopolysaccharides.

**BENEFITS OF TendoGuard™**
- Clinically Proven Effective
- Keeps Tendons Healthy and Flexible
- Increases Range of Motion Associated with Pain
- Helps Stimulate Collagen Synthesis
- Provides Necessary Nutrients to Tendons-Recovery Process

**Olea25®**

ORGANIC OLIVE LEAF EXTRACT
25% HYDROXYTYROSOL

Often considered nature's perfect antioxidant, hydroxytyrosol is one of the key active ingredients in the olive that is largely responsible for the olive's tremendous health benefits.

**BENEFITS OF Olea25®**
- Clinically Proven Effective
- Protects Against All 5 Common Free Radicals
- Promotes Heart Health and DNA Health Protection
- Ten Times Higher than Green Tea and Three Times Higher than CoQ10

**kollaGen®**

EGGSHELL MEMBRANE COLLAGEN

Collagen Types I, V, X, are powerful compounds found in eggshell membrane accounting for 15% to 20% of the total collagen.

**BENEFITS OF kollaGen®**
- Clinically Proven Effective
- Promotes Fibroblast Activity for Skin Elasticity
- Promotes Skin Collagen Renewal and Repair
- Decreases Body Inflammation
- Increases Joint Mobility

FOR INFORMATION & AVAILABILITY PLEASE CONTACT:
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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.

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**Corporate Headquarters**
Charles Ross & Son Company
710 Old Willets Path
Hauppauge, NY 11788

Toll-Free Number: 800-243-ROSS
Tel: 631/234-0500
Fax: 631/234-0691

Web Site: mail@mixers.com
E-mail: www.mixers.com

**Locations of Other Offices and Facilities**
Ross Test & Development Center
Hauppauge, NY

Ross Engineering Inc.
Savannah, GA

Ross Mixing Inc.
Port St. Lucie, FL

Ross Metal Fabricators Inc.
Deer Park, NY

Ross SysCon Inc.
Savannah, GA

Ross (Wuxi) Equipment Company, Ltd.
Wuxi, China

Ross Process Equipment Pvt. Ltd.
Pune, Maharashtra, India

Nantong Ross Mixing Equipment Company
Qidong City, China
Reach out and let us know how we can assist you.
www.cptclabs.com

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You have enough to worry about without getting indigestion over product testing. At Consumer Product Testing Company, we’ll provide service that is noted for fast turnaround time, reliable results, and scientific and regulatory expertise.

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One satisfying meal that’s easy to swallow.

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www.cptclabs.com

CPTC has provided a full service GMP/GLP/GCP testing laboratory for the cosmetic, personal care, medical device, pharmaceutical and specialty chemical markets.

Our capabilities include services in the clinical safety and efficacy, chemistry/microbiology/stability, photobiology, in-vitro toxicological fields and consultation. Our focus is on providing “Conception to Completion” service.

We are proud to announce the addition of heavy metals by ICP-MS testing, FDA import Detention testing and new "Bundle" pricing on Predictive Patch, Preservative and Ocular Irritation studies.
Chemi Nutra
Specialty ingredients for human performance

Description
Chemi Nutra offers cutting-edge, science-based nutritional supplement ingredients that address a variety of nutrition and performance-related concerns, including cognitive health, women’s health, weight management, anti-aging, and sports performance. We offer valuable assistance in developing unique, value-added, and profitable nutritional supplement products utilizing our thorough knowledge of nutrition science, formulation creativity, and targeted marketing. Chemi Nutra manufactures the highest-quality specialty nutraceuticals in our own FDA-inspected production facilities located in Italy and Brazil.

Specialty Ingredients

SerinAid® Phosphatidylserine (PS) — Focus Your Mind™
A multitude of scientific studies have shown that Phosphatidylserine (PS) can significantly help maintain and improve mental performance, help improve mood, and make a valuable contribution to lowering both physical and psychological stress. The loss of cognitive ability is often an unfortunate component of the normal aging process. SerinAid® has been scientifically proven to be beneficial in maintaining youthful mental performance, preventing the loss of critical-thinking skills, improving mood, and reducing the stress generated from our extremely fast-paced world.

IronAid® Iron Protein Succinylate (IPS) — Iron for Life™
For many people, iron deficiency and anemia are serious conditions that require nutritional or even clinical intervention. Compared to other traditional iron compounds, IronAid® Iron Protein Succinylate (IPS) offers safe, superior gastric tolerability and also superior absorption. Clinical studies involving more than 3000 people have shown an absence of gastric side effects in nearly all of the subjects.

AlphaSize® Alpha-Glyceryl Phosphoryl Choline (A-GPC) — Growth through Science™
Alpha-Glyceryl Phosphoryl Choline (A-GPC) is considered to be one of the most effective brain nutrients in the world and is widely used in clinical settings involving cognitive dysfunctions of various kinds. AlphaSize® also has interesting utility in “mind-to-muscle” sports nutrition formulations, where it acts to optimize muscular power output and also sharpen agility.

PhosphoLean® N-Oleoyl-PE + EGCG — Advanced Appetite Control™
Recent research involving the manipulation of appetite has shown that suppressing appetite and thus reducing the intake of food is an effective means of controlling energy balance. PhosphoLean® N-Oleoyl-PE+EGCG is a proprietary mixture of N-oleoyl-phosphatidyl-ethanolamine (NOPE) derived from soy phospholipids and epigallocatechin gallate (EGCG) from standardized green tea extract. PhosphoLean® is the “next generation” nutritional supplement compound for advanced appetite control and weight management, and can also aid in combating the stress of reduced-calorie diets.

Mediator® Phosphatidic Acid (PA) — Strength Through Science™
Phosphatidic acid (PA) is a lipid messenger that accelerates muscle protein synthesis through the Mammalian Target of Rapamycin (mTOR) pathway. Following extensive investigation into the role of PA, Chemi Nutra discovered that PA could significantly influence load-induced growth of skeletal muscle via the mTOR signaling pathway. The company subsequently made substantial investment in a number of well-designed human and animal research studies to understand how PA can benefit individuals.
This ain’t broscience. This is real science.

With the amount of broscience and pseudoscience circulating the health and wellness industry, it is no surprise the average person is confused, misled, injured, frustrated, and oblivious to proper nutrition and exercise.

At Chemi Nutra we believe science is paramount; which is why we focus on real science, not the gibberish some ‘bro’ at the gym utters.

We are leaders in specialty nutraceutical ingredients because our mission is to be the best in our category. We understand consumer’s needs for safe and high-quality ingredients that offer unique and scientifically proven health benefits.

Our world is devoted to the discovery, commercial development, and marketing of unique, patented, specialty compounds for sports performance, cognitive health, weight management, men’s and women’s health, and healthy aging.

In short, we are all about optimizing human performance.

CHEMI Nutra
Ingredients for Human Performance
cheminutra.com
ANNUAL SUPPLIER PROFILE

DDW The Colour House

Corporate Headquarters
DDW The Colour House
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Louisville, KY 40206

Toll-Free: 502/895-2438
Tel: 800/227-2635

Web Site: www.ddwcolor.com
E-mail: info@ddwcolour.com

Locations of Other Offices and Facilities
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Ireland
Tel: +353 21 435 3821

Key Personnel
Campbell Barnum,
VP Marketing and Branding

John Calland,
EUMENA Sales Director

Founded in 1865, DDW now operates 10 natural-colour manufacturing facilities on five continents. The product standards resulting from our quality systems exceed those required by all national and global food agencies. In addition, we back those standards with a global team of dedicated professionals and 150 years of experience in the colouring industry. This combination of innovation, experience, and dedication makes us the best source for companies looking for natural colours for food and beverage applications.

COLOR
HARVESTED FROM NATURE

Applied through science by the natural color experts

Mother Nature supplies the raw materials. D.D. Williamson adds the expertise. It’s a brilliant partnership that offers a complete range of natural colorings with the stability you need.

Get colors harvested from nature at DDWcolor.com/Harvest
DPL-US
A division of Dr. Paul Lohmann Inc.

**North American Office**
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Web Site: www.dpl-us.com
E-mail: info@dpl-us.com

**Key Personnel**
Patrick Stano, VP of Sales & Marketing, N. America
Ralf Dieckhoff, VP of Sales & Administration, N. America
Joe Weinzapfel
VP of Sales, Central US

**Description**
Dr. Paul Lohmann GmbH KG is a leading manufacturer of specialty mineral salts with over 130 years of manufacturing experience. We combine innovation and flexibility to enable us to respond rapidly to the changing needs of our customers while offering products with the highest quality possible.

**Services**
We offer customers the following:
- Certifiable Non-GMO Minerals
- A long history of manufacturing expertise
- Customized product development
- Two ISO- and GMP-certified production sites located in Germany
- State-of-the-art production equipment

**Products**
We offer over 350 different mineral salts in a variety of qualities, including:
- Fully Reacted Amino Acid Chelated Minerals
- Ca, Fe, Mg, Mn, K, Zn, and several other metals in a large variety of salts, such as acetates, citrates, gluconates, sulfates, fumarates, oxalates, aspartates, etc.
- Micronized minerals
- Microencapsulated minerals
- High-purity food grade minerals
- Direct compression grades
- Triturations of trace minerals

**Clients Served**
We supply mineral salts to the following industries:
- Food
- Nutritional supplements
- Personal Care
- Pharmaceutical and Biotechnology
- Technical

**Mineral Salts for Nutritional Supplements**
- Very wide range of minerals
- Food and Pharma grades
- Low levels of Al, Cd, Hg, Pb
- Special grades for
  - Soft-gelatine Capsules
  - Hard-gelatine Capsules
  - Tablets, Microtabs, Dragees
  - Sachets, Sticks
  - Liquids, Syrups
Ethical Naturals Inc.

Description
For supplement manufacturers eager to find a trustworthy source for natural ingredients, R&D, and production, Ethical Naturals Inc. (ENI) is the answer.

Founded in 2006, ENI supplies the supplement industry with premium-grade standardized botanical extracts and innovative ingredients such as GreenGrown® Glucosamine, AlphaWave® L-Theanine, Polyphenol-C™, ResVinol®, and others. Our product range can enhance your formulas in key categories, including joint health, heart health, relaxation, women’s health, and more.

Beyond raw material supply, we provide the one-stop convenience, cost savings, and efficiency of manufacturing under the same roof, with full encapsulation and bottling services delivered by our GoldenGate Nutritional manufacturing division.

In order to help our customers provide safe and effective products that help families enjoy long, healthy, active lives, we’ve developed rigorous protocols for botanical testing, product analysis, ingredient identity, and regulatory compliance. Every product in the entire Ethical Naturals portfolio is evaluated for purity and potency through our NSF-111 certified ProfileProven® testing program—a transparent process upon which our partners can rely. All testing is carried out and documented according to FDA 21 CFR 111 requirements in our own lab or at other independent U.S. testing laboratories. Our cGMP-certified customers appreciate that we speak a common language. NATURE VERIFIED BY SCIENCE® informs everything we do.

When a company buys from us, they buy peace of mind in the form of full chain-of-custody data and full USA-based quality verification for every ingredient. As a result, our ingredients are featured in hundreds of sought-after dietary supplements and food products found in leading natural products stores, grocery stores, drugstores, healthcare practitioner offices, and online retailers.

For more than a decade, we’ve worked to establish the highest testing and quality standards in the industry. We take pride in the fact that during a time of increasing regulatory and consumer affairs focus, our robust quality-assurance program goes above and beyond to protect your company’s name and reputation.
Euromed USA Inc.
Standardized herbal extracts and natural active principles

Founded in 1971 by Madaus, Euromed S.A. is a leading producer of standardized herbal extracts and natural active substances for the pharmaceutical, health food, and cosmetic industries.

Annually, more than 4000 tons of biomass are extracted at our manufacturing plant in Mollet del Valles, near Barcelona, Spain. The botanical raw materials are subject to strict selection and inspection in accordance with GAP guidelines.

Our extracts are in compliance with worldwide GMP norms, international pharmacopoeias, and international regulations. These extracts are manufactured according to methods developed by Euromed. They include inspections to guarantee a high quality standard from both analytico-chemical and therapeutic points of view, and take into account the state-of-the-art in different fields: research and development, analyses, processes and machinery, and therapeutic applications on a scientific basis.

With our phytopharmaceutical background and knowledge through experience, Euromed can also provide a wide range of analytical services and reference substances to our clients.

**Botanical source**
We perform a strict selection of raw materials in compliance with the Guideline on Good Agricultural and Collection Practice (GACP) for starting materials of herbal origin.

Once the herbal drug arrives at our factory, we store it in perfect conditions in order to preserve the quality.

We test our drugs exhaustively in accordance with the international regulations and pharmacopoeias, including botanical identification of species, control of active principles and heavy metals, pesticides, aflatoxins, and microbiological control. These tests enable us to always ensure the same drug quality, which is the starting point for our commitment to high-quality extracts.

**Our facilities**
Our manufacturing plant is located in Mollet del Vallès, near Barcelona, Spain, where we extract more than 3000 tons of drug per year in compliance with GMP norms.

Modern technologies are applied at Euromed in each step of the manufacturing process, such as solid-liquid (drug/solvent) extraction using different systems or extraction equipment, filtration, concentration under vacuum, spray and vacuum belt drying, purification (liquid-liquid extractions, crystallization, etc.), and semisynthesis.

We keep in mind the further destination of our extracts; other processes are applied to improve their galenical characteristics and to avoid possible technological problems that may appear during the production of the pharmaceutical forms, such as the Euromed UltraFlow range of granulated powders, for example.

**Euromed's highly qualified personnel at your entire disposal**
Our R&D department is highly committed to design and develop new products coming from sales/market requests. Nevertheless, we do not forget our traditional products. New technologies are applied, new manufacturing processes are designed, and new applications or new presentations are researched for them.
Farbest Brands

Farbest Brands is a premier distributor of food, beverage, and nutritional ingredients sourced from the world’s most trusted suppliers. We enjoy over 60 years of longstanding 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, 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.

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.

Plant Proteins: Conventional and USDA-certified organic versions of soy protein, pea protein, and rice protein

Organic

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

Vitamins
Farbest offers a complete line of vitamins and carotenoids, including vitamin premixes and blends.
Fruit d’Or Nutraceuticals

**Principles**
Providing quality control, from field to consumer, Fruit d’Or Nutraceuticals, a division of Fruit d’Or, supplies rich, high-potency, organic, all-natural cranberry fruit powders and cranberry seed oil for the health and nutrition industries. Our mission is to produce and promote high-quality fruit ingredients for food, beverages, and nutraceuticals, while reducing the environmental impact. Through an environmentally friendly approach, we meet and surpass the standards of environmental and sustainable development.

We have designed an organic brand called Cran Naturelle, which is the purest, all-natural, high-quality whole-food cranberry powder in the market. Cran Naturelle is also clinically studied and tested. Our state-of-the-art manufacturing process delivers the highest level of natural proanthocyanidins (PACs), while maintaining the natural integrity of the fruit. The commitment to quality, science, and innovation sets Fruit d’Or Nutraceuticals ingredients to a higher standard, helping manufacturers create superior end-products that are tried, tested, and true. We are not the world’s largest but one of the leaders in the world of organic cranberries and blueberries. We invite you to join our team and grow together to become involved in the next-generation cranberry company.

**Process**
We pride ourselves on our quality assurance, quality control, and manufacturing processes. We meet or exceed cGMP standards. Unlike those of other cranberry suppliers, our fruits are grown without GMOs or nanotechnology, fossil fuel fertilizers, or sewage sludge, and without toxic and persistent synthetic pesticides, herbicides, fungicides, or fertilizers. There are no irradiation, preservatives, chemicals excipients, colors, flavors, or chemical additives used.

**Products**
Our main focus is supplying all-natural, full-spectrum organic cranberry and blueberry ingredients. Products include:
- **100% Whole Food All Natural Fruit Powder**, guaranteed to contain the highest potency of PACs than all other all-natural cranberry ingredients
- **Patented Organic Cranberry Prebiotic Powder**, derived from the seed of the cranberry. A complete protein that contains 25% protein, 16 essential amino acids, 8 branch-chain amino acids, phospholipids, potassium, and high amounts of fiber 50%
- **Organic Pure Cranberry Seed Oil**, cold-pressed from the seed without chemicals, excipients, or high temperatures. Ideal for the cosmetic industry as a rival to palm oil and known for its high level of tocotrienols, Omega-3, -6, -9, and Sterols
- **Organic Tea Powder**, custom-formulated for the beverage industry. For functional medicinal use, containing the highest potency of PACs than any other cranberry tea powder

**Support**
We offer our customers assistance with support in the following areas:
- Educational material is offered to sales and marketing teams to promote science and research.
- Development of strategic promotional marketing campaigns to generate sales for both manufacturers and retailers
- Investment towards research and science to demonstrate the health benefits beyond UTI
- Establishing higher-quality assurance standards for guaranteeing purity, potency, and safety for consumers and preventing adulteration through methods such as DNA testing
- Collaborating with third-party accredited labs to establish new test methods for measuring bioactives of cranberry such as proanthocyanidins, using new technology and advanced analytical Equipment
Flavorchem Corporation

Description
Flavorchem, a SQF Level 3 organization, specializes in flavor and color creation and matching for all segments of the food, beverage, and nutraceutical industries. We partner closely with our customers throughout the entire process. Our talented team of flavor scientists and our application teams deliver the results you demand by tailoring every project to your full expectations.

We are a privately held, family-oriented business whose customers include first-class brands well recognized throughout the world. We’re absolutely committed to providing our customers with the highest-quality products and superior service and support.

Flavorchem’s strategically located manufacturing facilities allow for flexibility in serving customers and meeting their needs. Our corporate headquarters are located in Illinois, with facilities in California and Europe that are home to complete flavor manufacturing operations.

- Diverse portfolio of products and manufacturing capabilities
- Custom product solutions and services
- Low minimum order requirements
- Competitive pricing
- We hold the highest levels of foods safety and quality certifications
- Responsive and flexible
- Multiple Manufacturing facilities offering customers logistical advantages and provide for contingency
- International manufacturing
When it comes to the competitive *nutraceutical* industry, you want an accomplished *flavor partner* by your side.

Off-flavors are the major reason consumers avoid wellness products, regardless of their health benefits. Flavorchem specializes in making functional foods and beverages taste exceptional.

We offer flavor and masking ingredients perfectly suited for:

- Alternative Sweeteners
- Vitamins & Minerals
- Sodium/Salt
- Caffeine
- Dietary Supplements
- Whey, Soy & Other Proteins
- Omega-3/Fatty Acids
- Off-odors

Health is always in good taste.
GFR Pharma Ltd

A Leading Canadian Contract Manufacturer

Description
GFR Pharma is an established, full-service Canadian contract manufacturer that assists medium and large Canadian, U.S. and international companies achieve success.

Uncompromised Quality
Quality is a key factor in a brand’s success. GFR Pharma understands the importance of delivering trusted contract manufacturing solutions by maintaining a comprehensive quality system for customers’ peace of mind.

GFR Pharma is a certified GMP manufacturer holding a natural health products Site License issued by Health Canada. GFR Pharma is also a Registered Dairy Processing Establishment, a Certified Organic and a Kosher Check certified manufacturer and packager.

Outstanding Customer Service
GFR Pharma gives each customer their full attention. Instead of feeling like just a number, clients are kept up-to-date on all aspects of their product’s status through the production progress.

Open communication and a commitment to keeping their promises are some of GFR Pharma’s key values that enable customers to properly plan for their product launch or distribution.

Value Added Services
GFR Pharma is recognized in the Natural Health Product industry for its technical expertise in the formulation and development of superior supplement powders, tablets and liquids. GFR Pharma also has experts to guide clients through regulatory compliance requirements in Canada and internationally.

As a premium contract manufacturer GFR Pharma add value to every step of the process with advice and information that comes from decades of hands-on industry experience.

Extensive Manufacturing Capabilities
GFR Pharma is equipped to efficiently handle medium and large production runs, so they can meet a company’s custom contract manufacturing needs at every stage of the brand’s growth.

By continually investing in new capabilities, technologies and training, GFR Pharma stays at the forefront of supplement manufacturing innovation.

GFR Pharma manufactures a variety of delivery systems including:
- Whey-based proteins
- Plant-based proteins
- Organic Whole Food Powders
- Coated tablets
- Chewable tablets
- Sublingual tablets
- Sports Nutrition
- Greens Powders
- Functional Foods
- Herbal Blends
- Capsules
- Liquids

Multiple packaging options including:
- Bottling and Labeling
- Single use packets for liquids
- Powder stick packs and pouches
- Full body shrink sleeve labeling
GFR PHARMA
FULL SERVICE GMP CONTRACT MANUFACTURER

Proudly Canadian
owned & operated
since 1998

Frustration-Free Canadian Contract Manufacturing

Thinking about expanding your brand to Canada?

GFR Pharma is a trusted Canadian manufacturer who is experienced in Canadian Natural Health Product regulations. Our GMP facility is located within an hour of the US border for efficient shipping to anywhere in the world.

When you work with our team of industry experts, you get personalized client care, product development expertise, and a commitment to quality, all at a cost-effective price.

With various dosage formats, multiple packaging options, and a dedication to continuous innovation, we can meet your custom contract manufacturing needs at every stage of your brand’s growth.

Proudly Canadian owned & operated since 1998

Discover the benefits of partnering with a Canadian manufacturer at gfrpharma.com/CDN

Tel: 1-877-560-8440 • sales@gfrpharma.com • www.gfrpharma.com
65 North Bend St, Coquitlam, BC, V3K 6N9 Canada
Glanbia Nutritionals
See what’s possible when you just add Glanbia.

Better nutrition starts here. Welcome to the new Glanbia Nutritionals! We’ve unified our cheese, dairy and plant proteins, specialty ingredients, flavors, premix and aseptic beverage manufacturing under one name, creating one nutritional powerhouse. We now bring you a simpler connection, enhanced insights, more innovation and greater value.

We’re a science-led, quality-obsessed and down-to-earth provider of innovative nutritional solutions to many of the world’s greatest brands.

We solve for better performance—nutritional, functional and operational. Inside every food, ingredient and service we offer is a promise to keep people healthy and strong. We keep that promise by finding new ways to make food that performs better. Our scientific expertise, consumer insights and operational know-how helps our customers make products that people love and trust. Whatever challenge you have, from making a better formulation, to improving your logistics, to finding new ways to grow, we can help.

We make the best, at a scale you can always count on.

We believe there’s always a better way. That mix of ingenuity and just plain tenacity is how we make products with the absolute highest quality and nutrition. With worldwide facilities that meet the most stringent standards and supplier partnerships around the globe, we ensure the flexibility, responsiveness and rock-solid supply chains needed to make something amazing—from a custom solution, to a cutting-edge flavor, to the next category blockbuster.

We shape the future of nutrition.

Our integrated teams of Product Managers, R&D, Insights and Marketing collaborate with customers to develop the solutions that help them lead their categories. Supported by our three Innovation Centers, we’ve pioneered the nutritional bar category, developed accelerated cheese aging techniques and invented a cross-flow microfiltration process that sets the bar for whey proteins. From new product ideas to more efficient processes, our innovations keep us and our customers at the front of the nutritional industry.

We help brands get bigger and smarter.

Winning in quickly-evolving markets takes knowing how to make a product right and knowing the right product to make. From the start, our Insight team works shoulder-to-shoulder with customers to translate data, consumer learnings and category trends into new product opportunities. Our expertise in end-to-end product development turns those opportunities into products that outperform the competition and help our customers grow.

Just add Glanbia.
Looking for better nutrition? Just add Glanbia.

Better nutrition starts here. The new Glanbia Nutritionals brings three businesses into one nutritional powerhouse.

See what's possible @ www.glanbianutritionals.com
Description
With over 25 years of experience, Gnosis is a biotechnology company specialized in the manufacturing and sale of fermentation-derived raw materials and natural finished products for the pharmaceutical, nutraceutical, cosmetic, veterinary, and agricultural industries.

Successful integration of R&D centers and GMP-approved manufacturing facilities enables Gnosis to constantly develop and introduce innovative, industry-leading products to its customers, merging excellence in biotech innovation and constant evolution in nutraceutical applications. The company also offers tailor-made industrial manufacturing of intermediates and active ingredients.

Gnosis’s primary branded proprietary ingredients for the nutraceutical industry include:

- **Probiotics**: BiOOptima™ *S. boulardii*
- **Folate**: Quatrefolic®
- **SAMe**: Adomet® (S-adenosyl-methionine powder), Adogran® (SAMe granular), Adomix® (SAMe dried mix), Adonat™ (SAMe phytate), Solæsse® (all-natural tablets), SamEspresso® (mouth-soluble granulate), Samedrink® (effervescent tablets), and Superesse® (enriched natural yeast)
- **Vitamin K2**: vitaMK7® (menaquinone 7) and K2&Olive™
- **S-Acetyl-Glutathione**: Emothion™
- **Silybin**: Phosphocomplex™
- **Non-animal Chondroitin Sulfate**: Mythocondro®

The Gnosis Group includes a European manufacturing network made up of three operating divisions: the R&D Centre in Desio (Milan, Italy); production plants in Bellinzona (Switzerland) and Pisticci (Matera, Italy); and three commercial operations located in Italy, the United States, and China.
The Methyl Donor for Life

Mood

Liver

Joint

Proven Healthy Mood Support

Proven Healthy Liver Function Support

Proven Healthy Joint Comfort and Support

SAMe Granular

SAMe Dried Mix

Enteric Coated Tablets

SAMe phytate

Effervescent Tablets

Mouth-soluble granulate

Enriched natural yeast

All-Natural Tablets

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Doylestown, Pennsylvania 18902 - USA
Tel +1.215.340.7960
www.gnosis-bio.com
www.advancednutrition-bio.com
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 and AIB 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 custom, QAI Certified Organic, ISA Certified Halal, OU Certified or KOF-K Certified Kosher flavors upon request. Our current manufacturing facility is located in Commerce, California, while utilizing distribution facilities throughout the United States, Asia and Europe.

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

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Tel: 323/724-8935
Fax: 323/724-9354
Web Site: www.goldcoastinc.com
E-mail: info@goldcoastinc.com

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China
Tel: +86 0755 29807378

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President
Jon Wellwood,
General Manager
Michele Trent,
Corporate Sales Manager
FLAVORS & COLORS

trust us with trends

Organic
Natural
Non-GMO
Allergen-Free
Gluten-Free
100% Vegetarian
N&A
and more flavors

GFSI
AIB
Organic
Halal & Kosher
certified

Browse through over 2,000
sweet & savory flavors
at www.goldcoastinc.com

GOLD COAST ingredients, inc.

Tel +1 (323)724-8935
Contact: info@goldcoastinc.com
Looking for a way to deliver that healthy edge? GPC has the solution!
Scientists at Grain Processing Corporation (GPC) recognize the challenges of formulating for a nutrition-conscious market and are proud to provide practical solutions to help meet your product development needs. GPC’s line of specialty carbohydrates continues to expand to meet the changing requirements of our customers. Innovative specialty ingredients, designed with customer-specific needs in mind, highlight our product line.

Premium Maltodextrins
As a leader in the industry, providing a dependable supply of high-quality maltodextrins is a primary focus for GPC. With an unmatched product line and a commitment to quality that is second to none, MALTRIN® maltodextrins and corn syrup solids from GPC are considered the gold standard for the industry. They are easily digestible carbohydrates for use in various applications including nutritional and sports beverages, infant formulas, nutritional bars, frozen desserts and healthy snacks. They can 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 clean flavor profile, low hygroscopicity and high solubility also make them ideal for spray drying flavors, colors and fruit juices. Quick-dispersing versions are also available.

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. These starches are used in a myriad of food, beverage and nutritional applications to thicken, bulk, bind, carry, gel, coat, manage moisture, stabilize, replace or reduce fat or aid in spray drying. We can offer the correct starch solution for the specific function desired.

Exceptional Products, Superior Service
Let us assist you in matching the appropriate GPC ingredients to meet your product development challenges with new approaches, new ideas and scientifically-based solutions.
Dear GPC-

we genuinely appreciate the technical support your team provided in helping us reach our health and nutrition objectives. It’s rare to find a company that possesses both the consumer insight and technical know-how that GPC provides. Thanks for making our reformulation one of the smoothest we’ve ever encountered.

-Name withheld
Sr. R&D Scientist

Whether you are developing a new product or reformulating an existing one, GPC’s knowledge of maltodextrin for applications such as nutritional bars and beverages can make your process a breeze. GPC maltodextrins are designed for quick dispersion, easily dissolving in cold water with minimal sweetness and a clean flavor profile. Keep your next project from becoming a marathon. Call GPC and let us know how we can help.

@grainprocessing.com/MALTRIN
E-mail: food.sales@grainprocessing.com Phone: 563.264.4265 Fax: 563.264.4289
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Herbally Yours Inc.
Celebrating 20 years of Contract Manufacturing Excellence

Since 1993, Herbally Yours Inc, has been the forerunner of contract custom manufacturing of dietary supplements and personal care products. Our prestigious facility is NSF cGMP, NSF for Sports, USDA Organic, Kosher certified, and FDA registered.

Herbally Yours is a research and development analytical laboratory with complete turn-key contract manufacturing facility specializing in dietary supplements and skin care products. All products and ideas start in the lab, and are analyzed by our analytical team. We have extensive experience and knowledge in formulation and reverse engineering, as well as testing protocol.

Our manufacturing capabilities consist of liquid products, creams and lotions, powders, capsules, botanical extracts, skin care and more. Our high standards for protecting our customers’ products and methods are exclusive of our need to offer fast turn-around times, with competitive pricing. As a result of our commitment to exceeding expectations, we have cGMP certification through NSF International and are registered and inspected by the FDA, so we can continue to assure our customers of product identity, strength, composition, quality and purity.

With an innovative analytical laboratory and extensive experience in formulation of new products, reverse engineering; developing new technologies and creating consistent results, we set the new standard of excellence for quality, efficiency and service.

Your manufactured product will be custom and as unique as your company. As a boutique manufacturer of custom formulated products, we never offer private label or develop our own line of products. At Herbally Yours, we hold all formula sacred and confidential. Together, we will meet your expectations, and help you to exceed your potential, with confidence and pride.
Since 1993, Herbally Yours, Inc has been a contract manufacturer of nutritional supplements, sports nutrition, and skin care products. Our custom formulations are extensively tested in our in-house analytical laboratory and manufactured in our modern facilities that are NSF cGMP, NSF for sport, and USDA Organic certified.

www.herballyyours.net

1504 west san pedro st
gilbert, arizona 85233
480.892.8220

SupplySide Booth WEST G121

www.facebook.com/herballyyours
Hilmar Ingredients delivers the promise of dairy – whey protein, lactose and milk powder – 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.

Sustainability – it’s no longer a preference, it’s a requirement. As Hilmar Ingredients produces high-quality whey protein, lactose and milk powder, nearly all the water we recover from incoming milk is recycled and reused. Solar energy helps keep our lights on, and biogas heats our boilers. Our headquarters achieved LEED® Platinum certification. Environmental stewardship – it’s our ongoing commitment.

Learn more at hilmaringredients.com or give us a call: 209.667.6076
THE VALUE
OF EFFECTIVE MARKETING

“Although our company has over a half century of successful business experience, Susie Hays with Q2Mark helped us redefine our marketing strategy and take it to a completely new level. She helped us better understand where the opportunities were and how to reach our target audience through a truly integrated marketing approach.

She communicated our expertise and values to the industry in a more unique and memorable way. It brought about an immediate and extraordinary increase in incremental sales. More importantly, her insight has fundamentally broadened the way we think about adding value, by better communicating with our principals, with our clients and throughout our industry.

Bottom line: The results speak for themselves and our investment in Susie and Q2Mark has been more than well worth it.”

Lisa Alley-Zarkades
Vice President Commercial Development

HORN | Animal Wellness

There’s more than one way to succeed in the dietary supplement, functional food and beverage, personal care and animal nutrition industries. But one thing’s for sure: A trusted advisor is always the right place to start.

For more than 25 years, companies worldwide have relied on Q2Mark’s honest insights to help create their brands, launch new products, improve customer loyalty, solve challenges and build more successful businesses.

Put our strategic marketing communications consulting expertise to work for you.

Q2Mark.com • 760.458.9201 • Susie@Q2Mark.com

Q2MARK
creating + empowering brands

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Innovative Food Processors Inc.

Powder Product Innovation | Particle Engineering

Description
Innovative Food Processors Inc. (IFP) takes pride in 30-plus years of collaboration and partnership with leading global food, dietary supplement, sports nutrition, and medical food companies. We offer customized particle engineering support and turnkey powder product manufacturing services. We are experts in every stage of the powder product development process.

Our two high-capacity manufacturing sites are equipped with advanced fluid-bed batch processing technologies. Contract manufacturing services include leading-edge agglomeration and microencapsulation technologies. We offer versatile retail packaging solutions, including the popular stick pouch technology. We also offer functional ingredients under the PrimeCAP® and Insta® brands.

- NSF Registered cGMP for Dietary Supplements and SQF Level III
- QAI Organic Certified

Services
Custom formulation and manufacturing of functional beverages, sports/nutrition supplements, and medical foods containing high-value ingredients such as fibers and prebiotics, antioxidants, probiotics, natural high-intensity sweeteners, proteins, vitamins and minerals, and amino acids.

Product Development
Formulation | Application Support | Finished-Product Concepts
Process Development | Qualification & Validation
Bench Top | Process R&D

Contract Manufacturing
Particle Engineering | Agglomeration | Encapsulation
Controlled Release | Dosing | Flow Control | Ingredient Isolation | Instantizing

Versatile Packaging Solutions
Canisters | Jugs | Stick Packets | Sachets

PrimeCAP® Encapsulated Ingredients
- Off-the-shelf ingredients for food and nutrition applications
- Caffeine – For energy bars and confections
- Vitamin and Minerals – Masked and stabilized

Instantized Ingredients
- Insta®Rice, corn, and potato (as carrier for sweeteners and probiotics)

Clients Served
- Functional Beverages
- Fortified Foods
- Food Ingredients
- Medical Foods / Meal Supplements
- Sports Nutrition

Corporate Headquarters
Innovative Food Processors Inc. (IFP)
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Key Personnel
Craig Siefken, VP of Commercial Operations
Amanda Fox/Nikki Gehl
Sales Director
Walt Zackowitz/Matt Quade
Sales & Marketing, Specialty Ingredients

ANNUAL SUPPLIER PROFILE
POWDER PRODUCT PERFORMANCE

Helping you deliver powders with precise composition, tailored sensory characteristics and optimized functionality.

Turnkey Services
Product Development | Manufacturing & Packaging | Quality Management

Agglomeration | Encapsulation
Particle Engineering | Particle Coating
Granulation | Dosing

Specialty Ingredients
PrimeCAP® Encapsulated Ingredients
Insta*Thick® Gums & Starches

www.ifpinc.biz
800.997.4437
Faribault, MN
NSF Registered for Dietary Supplements and SQF Level III Certified.
INGREDIENT SUPPLIER

ANNUAL SUPPLIER PROFILE

The iidea Company

Established in 1996, and with over 20 years of experience, The iidea Company embodies the utmost in experience, trust, and soundness in the world market. The iidea Company is the pioneer in making premium organic agave syrup and a world leader in the elaboration and commercialization of premium agave products.

The iidea Company is committed to offering products made with the highest-quality processing standards. This is why the firm holds certifications that pave the way for consumption of its products in over 40 countries worldwide.

The iidea Company’s primary commitments are as follows: guarantee the satisfaction of our clients by making products that fulfill international quality and safety standards; prevent environmental pollution; care for the health and integrity of our collaborators; fulfill and promote social responsibility; and ensure the fulfillment of legal requirements, regulations, and contractual agreements.

Our products are: agave syrup, sweet agave powder, agave inulin, and tequila.

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Key Personnel
Alvaro Cetto, President
Claudia Cetto, Vice President
Carlos de Anda, CFO

CELEBRATING
20th YEARS
of INNOVATION and PIONEERS
in the Organic Food Industry.
Description
Innophos Inc. is a global producer of performance-critical and nutritional specialty ingredients, with applications in pharmaceutical, dietary supplements, food, beverage, and oral-care end-markets.

Services
Innophos delivers for customers by building on the strengths of our pharmaceutical and nutritional ingredient solutions, which include: technical expertise, global distribution, high-quality products, and supply chain advantages.

Products
Excipient brands, including A-TAB®, DI-TAB®, TCP-DC™, TRI-TAB®, CALIPHARM®, and NutraTab™ calcium phosphates; our award-winning VersaCal Clear™ for fortification of clear beverages; Innophos Nutrition’s full line of mineral amino acid chelates, including K-Pure™ Chromium, Zinc, Magnesium; and our patented enzyme blends, Aminogen® and Carbogen®, that enhance metabolism and muscle function.

Innophos’s range of nutritional products, global presence, and formulation capabilities provide our customers important benefits in growing sports nutrition, dietary supplements, functional foods, and fortified-beverage markets.

Superior Binding for Challenging Formulations
NutraTab™
Tricalcium Phosphate with Guar Gum for Direct Compression
Nutra Tab™ delivers superior binding for pharmaceutical and nutraceutical formulations. It’s excellent for use in chewable tablets and high potency calcium supplements.

Superior Tableting Properties with Nutra Tab™
- Excellent flow, compressibility and disintegration
- Excellent mouth feel when used as the calcium ingredient in chewable tablets
- Consumer friendly ingredient for clean labeling
- Fortifies with calcium and phosphorus

Our team offers the expertise to help you include nutritional and functional phosphates in new product development. You provide the challenges and we’ll provide the solutions. Call Technical Assistance at (866) 631-7394.

Call Innophos Customer Service today at (800) 243-5052 to place your order.
Jarrow Industries
Your Single Source for Dietary Supplement Contract Manufacturing

About
Our 125,000 sq. ft state-of-the-art facility, located in sunny Southern California, houses a multitude of modern, top of the line manufacturing and analytical equipment. We have several sizes, capacities and backup equipment for all stages of supplement manufacturing. Starting from powder pre-treatments (sieving, granulation, milling), compounding/blending, encapsulation, tablet compression, bottling, all the way to labeling.

Our in-house, full spectrum, analytical lab enables us to support and verify the quality of your product from start to finish. Furthermore, our cGMP and organic certification maintain that the products are manufactured to the highest of standards and with full traceability. With over 15 years in the supplement industry, we are the experienced manufacturing partner equipped to bring your supplement concept to reality.

Services
Jarrow Industries is eager to bring your concept to reality through our turn key product services. Our high speed, high accuracy and reliable manufacturing machines will output your products in powder, tablets (various shapes, chewable, sublingual, bi-layer, etc.) and capsules dosage forms. Additionally, our multiple, fully automated packaging lines will be available for your bottling, blister packing and boxing needs.

With over 15 years of successful contract manufacturing experience, we are confident that we can be your strong manufacturing partner. Our 125,000 sq ft world class manufacturing facility is FDA registered, with a multitude of third party quality certifications that includes cGMP by NSF, Organic by QAI and Kosher by Circle K.

Jarrow Industries’ analytical laboratories provide one-stop comprehensive analysis and testing services of dietary supplements. We analyze raw materials (both active ingredients and excipients) for identity, chemical, and microbiological, heavy metals, organoleptic and other physical properties. Finished products are also tested in a similar manner to ensure the quality of the products.
Jarrow Industries® is the one-stop-shop for your high-quality supplement contract manufacturing needs.

Our 125,000 sq. ft. state of the art facility, located in sunny Southern California, houses a multitude of modern, top of the line manufacturing and analytical equipment. Our in-house, full spectrum, analytical lab enables us to support and verify the quality of your product from start to finish. Furthermore, our cGMP and Organic certification maintain that the products are manufactured to the highest standards and with full traceability.

With over 15 years in the supplement industry, we are the experienced and equipped manufacturing partner to bring your supplement concept to reality.
Jiaherb Inc.

**Why Jiaherb?**
JIAHERB is the largest NSF GMP-certified herbal extract manufacturer from China, offering more than 400 ingredients. Our commitment to our customers is to provide reliable, high-quality ingredients supported by our superior customer service and competitive pricing. We know that the ingredients you choose to put into your products are a reflection upon your standards of quality and excellence. JIAHERB guarantees its customers consistent efficacy and efficiency through fast delivery, large inventory of products, complete regulatory documentation, and uncompromised service and support.

**Our People**
Our greatest asset is our people. More than 600 dedicated employees around the world make up the JIAHERB team. More than 20 operate in the U.S. out of our headquarters in New Jersey and our office in California. The rest of our team works at our world headquarters, production facilities, and laboratories in China. Our continuous growth and strong foundation is a direct reflection of our employees’ diligence, pride, and enthusiasm.

**In the Field**
JIAHERB has a comprehensive and diverse sourcing program. Our sourcing team travels the world looking for the best raw materials while maintaining the sustainability of crops to preserve local resources. We actively verify the reliability of our partners via stringent quality-control practices and by working closely with premier growers and pickers. This ensures that our quality standards and integrity are upheld through every step of the growing process. JIAHERB meticulously examines each batch of raw materials in our state-of-the-art laboratory for identity, potency, and purity.

**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 allows JIAHERB to produce thousands of metric tons of natural ingredients per year.

**In the Lab**
JIAHERB’s quality control and assurance team consisting of highly qualified skilled scientists and technicians uses the most advanced equipment to carry out analytical testing to ensure the transparency and safety of all our products. We have earned an industry-wide reputation for sustaining the highest level of quality control throughout all stages of production. Our in-house laboratories are equipped with extensive systematic instrumentation, including but not limited to HPLC, UPLC, GC, UV, ICP-MS, HPTLC, FTIR, PPSL, and testing for pesticides and microbiology. Through our meticulous processes, JIAHERB is able to ensure that every product conforms to our stringent standards and certificates of analysis.

**Research and Innovation**
Our dynamic R&D team is devoted to providing our customers with the highest-quality ingredients and customized solutions. Our experienced scientists and technicians work to identify current and future market demands by combining their proficiency with the latest technological innovations to develop unique products.
Flint Families Need Our Help

You’ve likely seen the news coverage – Flint’s change of water source in 2014 to the Flint River corroded plumbing, allowing lead to leach into tap water. With an estimated $1.5 billion price tag and 30-year time frame for pipe replacement, there simply is no quick or easy fix. But for affected adults and children, life goes on.

*Nutritional Outlook* wants to team up with the nutraceutical industry to come together in support of the Flint community. Can you help? Your generous tax-deductible donation to the *Flint Child Health & Development Fund, established by the Community Foundation of Greater Flint*, is an investment in the chance for Flint’s children to enjoy healthier lives. *Nutritional Outlook*’s parent company, UBM, and their nonprofit arm will match the funds that we raise together, according to the scale of our response.

For more information, to donate, and to learn about other ways to help the Flint community, visit www.nutritionaloutlook.com/helpflint.

Please be sure to enter the term NO2016 where the donation form asks “How did you learn about the fund?” so that UBM/Nutritional Outlook can match your donation.
Description
For 30 years, Jost Chemical Co. has manufactured high-purity mineral salts for the nutritional, clinical nutritional, and pharmaceutical markets. Jost’s 300,000-sq-ft manufacturing site in St. Louis is FDA-registered and operates under bulk pharmaceutical cGMPs. Jost is a trusted global supplier. Our products meet or exceed USP/NF/EP/FCC standards, are fully reacted, 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, 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
- Magnesium Citrate Tribasic – USP
- Magnesium Lactate – EP
- Magnesium Phosphate Dibasic USP/FCC
- Manganese Citrate – USP/FCC
- Manganese Sulfate – USP/EP/FCC
- Potassium Gluconate – USP
- Zinc Ascorbate
- Zinc Citrate – USP Low Lead
- Zinc Oxide Low Lead
- Zinc Gluconate – USP
- Zinc Sulfate – USP
Jost Chemical Co. manufactures ULTRA PURE mineral salts with exceptionally low levels of heavy metals.

This supports our customers in meeting European Regulation 231/2012 and the expected ICH and USP elemental impurity guidelines.

Jost’s ULTRA PURE products have the following typical heavy metal specifications:

- Lead......................... 1 ppm max.
- Arsenic ................... 1 ppm max.
- Cadmium .................. 1 ppm max.
- Mercury ................. 0.1 ppm max.

IT’S IN THE DETAILS.
Kyowa Hakko USA Inc. is the North American sales office for Kyowa Hakko Bio Company, Ltd., a world leader for more than 60 years in the research and manufacturing of high-quality branded ingredients, including:

**Setria® Glutathione** to support a healthy immune system and protect cells from oxidative stress and toxins

**Cognizin® Citicoline** for brain health, with research supporting focus, attention, and recall

**Sustamine® L-Alanyl-L-Glutamine** for sports nutrition to help rebuild muscle and increase electrolyte and water absorption

**Pantesin® Pantethine** to help the body maintain a healthy cholesterol ratio

**L-Citrulline** to support nitric oxide production

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Add some immune protection to your next supplement.

Glutathione is an essential component of the body’s defense systems.* It protects cells from the damaging effects of oxidative stress and toxins and supports multiple immune processes.* Unfortunately, natural glutathione levels can become depleted through stress, poor diet and the aging process. Setria®, a unique tri-peptide form of glutathione, has a molecular structure that effectively increases glutathione blood levels when taken orally.* It’s the only supplemental glutathione backed by a recently published human clinical trial that shows significant uptake of this critical nutrient.* Arm your consumers with a strong defense. Add vegetarian, allergen-free, GRAS Setria glutathione to your next immune supplement.

*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.

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Look for these fine brands with Setria® Glutathione in their formulations.
Based in Vancouver, Canada, Mazza Innovation Ltd. is a world leader in the extraction of premium-quality, solvent-free bioactive compounds and nutrients from botanical and biomass sources using its proprietary, earth-friendly PhytoClean™ extraction technology.

The PhytoClean™ Method’s water-based extraction process purifies and concentrates bioactives by pressurizing water at moderate temperatures to lower its polarity. This greatly increases the water’s ability to solubilize bioactive compounds like polyphenols, alkaloids, glycosides and specialty carbohydrates. This eliminates the need to use harsh industrial solvents such as ethanol, methanol, ethyl acetate and others during the extraction process. Mazza’s fully natural, clean process can be applied to extract a wide range of compounds for use in supplements, nutraceuticals, flavorings, colorings, cosmetics, beauty care products, pharmaceuticals, and functional foods and beverages.

Mazza has successfully tested its extraction process with more than 40 different botanicals and bioactives. The company’s first three ingredients are its premium-quality, award-winning PhytoClean™ Cranberry, Green Tea and Blueberry extracts — selected as the “most innovative ingredients” at Engredea 2015. Mazza is actively seeking collaborative extraction agreements with product manufacturers and ingredients suppliers.

Clean-label botanical extracts and bioactive compounds

Patented PhytoClean™ technology — solvent-, preservative- and excipient-free

• Employs proprietary low-polarity water extraction technology
• Earth-friendly: No residual industrial solvents
• Cost-effective: Higher yields and optimal compound recovery
• Clean: GMP and Certified Organic

Mazza’s innovative technology allows for clean-label extraction of bioactive compounds, including polyphenols, alkaloids, glycosides, specialty carbohydrates, and more that are standardized for the concentration of marker compounds. Product range includes:

• Blueberry, elderberry, cherry and other high-anthocyanin and flavonoid compounds
• High-value vegetable and fruit extracts
• Merlot, malbec and other varietal grape seed extracts
• Mushroom biomass and seaweed bioactives
• Astragalus, ashwagandha, green tea and other botanicals

Contact us today to discuss working together to make your ingredients and products more natural, solvent-free, consumer-friendly and environmentally responsible using our advanced PhytoClean™ technology.

MAZZA INNOVATION LTD.
Redefining clean, green & sustainable
Toll-free (USA/Canada):
+1-877-290-1533

www.mazzainnovation.com
INGREDIENT SUPPLIER

ANNUAL SUPPLIER PROFILE

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William Ludlum,
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Description
For more than 30 years, MORRE-Tec Industries, Inc. 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-9001-2008 certified manufacturer and distributor of unique products for the personal care, food, functional & nutritional, pharmaceutical and biotech industries. MORRE-Tec continues to experience rapid growth through increased market presence and acquisitions. In early 2016, the company acquired Vitacyclix, a Yonkers, New York company known for its quality vitamins, nutrients and bioflavonoids for fortification.

MORRE-Tec Industries Inc. (MTI) is comprised of multiple divisions, each focusing on a particular segment of the ingredient marketplace:

MTI’s Functional & Nutritional Ingredient Group provides fortification ingredients for foods, beverages and nutraceuticals.
• Potassium, Iron, Calcium, Magnesium and other minerals
• Bioflavonoids, Carotenoids & Phytosterols
• Water Soluble Vitamins A, D2, D3, K1 & K2
• Natural Colors
• Extracts, Oleoresins & Essential Oils

Extracts & Ingredients Ltd., a Division of MTI, provides natural materials for cosmetics, toiletries and personal care products.
• Jojoba, Castor & Vegetable Oils
• Butters, Curatives & Essential Oils
• Botanical Extracts
• Fruit & Seaweed Extracts

MTI’s Specialty Chemicals & Bromine Compounds Group provides specialties for industrial and pharmaceutical applications.
• Inhibitors
• Intermediates
• Peptide Reagents
• Process Chemicals
• Bromine Compounds

Micro-Tec, LLC, a Division of MTI provides contract manufacturing and packaging services.
• Micronizing: patented Vortex technology
• Blending, Grinding, and Custom Milling
• FDA Registered and Inspected Facility; cGMP Compliant
• Bulk Solids Repackaging: Drums, Bags and Boxes

Contact us today for samples or information
sales@morretec.com
908.688.9009

MORRE-TEC INDUSTRIES, Inc.

MORRE-TEC INDUSTRIES, Inc.

FUNCTIONAL INGREDIENTS

For FORTIFICATION

Minerals:
Magnesium Chloride
Potassium Chloride
Tricalcium Phosphate
Dicalcium Phosphate
Anhydrous

Water-Soluble Vitamins:
A, D2, D3, E, K1 & K2
Made with proprietary SOL-U-BLE™ technology

Omega 3 Oils
Carotenoids
Phytosterols
Rutin, Naringin & Quercetin

NUTRITIONAL OUTLOOK • JULY/AUGUST 2016
Metabolic Technologies, Inc.

Dedicated to Research. Committed to Your Health.

Description
Metabolic Technologies, Inc. (MTI) is a research-driven company that is dedicated to the development of credible, safe, and effective nutritional products. The company was founded in 1990 by university professors Steven L. Nissen, DVM, PhD, and Naji N. Abumrad, MD. Their research ultimately led to the discovery of HMB and its effects on health and performance. MTI continues to research new products that are consistent with their mission to develop natural products to help enhance health, performance and well-being. MTI also provides clinical and research analytical services through their affiliated lab, Heartland Assays.

Products
HMB (CaHMB) is a metabolite of the essential amino acid leucine. This nutritional supplement works by increasing muscle protein in two ways. First, HMB decreases protein breakdown caused by intense training. At a molecular level, HMB disrupts proteolysis through the ubiquitin-proteasome proteolytic pathway, a primary proteolytic pathway that breaks down muscle protein. HMB also stimulates protein synthesis in the muscle by multiple mechanisms, including the mTOR pathway. Studies have shown that supplementing with HMB during training helps improve strength and endurance and aids a faster recovery.

MTI has brought a newer derivative of HMB to the sports nutrition market, BetaTOR, which is the pure, free acid form of HMB. Published studies of this delivery form have shown that BetaTOR has a faster absorption and results in increased blood levels of HMB and HMB clearance to tissues. The results from using BetaTOR attest to what the scientists thought: this delivery form is superior to the CaHMB form.

MTI has co-developed the sports nutrition product BetaATP with TSI Group Ltd. BetaATP was awarded the 2015 Nutritional Ingredients Sport and Energy Finished Product of the Year award. BetaATP is the combination of the two proven ingredients, BetaTOR and PEAK ATP. Research has shown this combination to have a powerful, synergistic benefit on performance gains.

A new powerful combination, MyoeDge, is now being licensed for sports nutrition applications by MTI. MyoeDge is a mixture of Vitamin D and HMB. While HMB has a long record of helping promote lean muscle gains, the critical role of sufficient levels of Vitamin D in promoting muscle function has only recently been discovered. The HMB and Vitamin D combination in MyoeDge assures optimal muscle function.

TWO THINGS NEVER LIE: SCIENCE AND RESULTS

As athletes and consumers have an increasingly greater access to supplement, nutrition and training information, they are less inclined to take things at face value. To this educated audience, there is undeniable value in the transparency afforded by clinically proven ingredients and branded finished dose products.

Clinically proven HMB delivers trusted results that athletes and consumers want and that sports nutrition brands need. Distinct strength gains, improved endurance and quicker recovery time are real results that HMB delivers.

Visit the new and improved HMB.org site today to get the facts, read the science and find out how HMB can improve your next sports nutrition product.

Visit www.HMB.org/no
Natoli Engineering Company, Inc.
Delivering Unparalleled Quality

Description
Natoli Engineering Company, Inc., is a tablet-compression solutions provider with 40 years of experience delivering products and services to pharmaceutical, nutritional, confectionery, industrial, and veterinary industries around the world. Natoli’s commitment to providing the highest-quality products and expert technical services ensures customers get the most from their investment.

Punches and Dies
Natoli manufactures a variety of top-quality tablet-compression tooling, including carbide-tip, multi-tip, micro-tab, rotating heads/tips, IMA Comprima tooling, Kilian type, 3D exotics, die table segments, and more—all available for worldwide delivery. We keep 18 different grades of steel on hand at all times—the largest inventory and selection in the industry—to ensure consistent quality and availability. Natoli also offers a variety of specialty tool coatings and treatments to meet your specific needs.

Tablet Presses
Natoli offers a diverse line of tablet presses, from full-size industrial machines to benchtop models. Our single-station R&D laboratory presses present new opportunities for formulation development and are offered in manual and automatic options with data-acquisition capabilities. One of the most economically efficient tablet presses on the market, the NP-500, a double-sided rotary press, is designed to compress tablets requiring deep fill and extended dwell time. Visit www.natoli.com for specifications, photos, and videos.

Services
Our technical services experts lead the industry in training with decades of professional experience to help you with tablet design, steel and coating selection, and troubleshooting. We founded the Natoli Scientific and Natoli Metallurgy divisions to solve your most complex compression-tooling challenges. Natoli Scientific uses research and testing to find proactive and customized solutions to combat common manufacturing issues such as wear, sticking, picking, capping, lamination, and tablet-press tool binding. Natoli Metallurgy’s on-staff metallurgist provides services including material selection, wear testing, and steel failure analysis.

Tablet-Compression Accessories and Replacement Parts Catalogs
We publish the only comprehensive accessories catalog in the industry. It features hundreds of products to help you clean, lubricate, maintain, store, and analyze your equipment to prolong tool life, support your investment, and increase productivity. Printed, digital, and interactive online catalogs are available at no charge at www.natoli.com.

We also offer tablet-press replacement parts catalogs featuring our parts inventory, available by PDF download for Cadmach, Colton, Fette, Kilian, Korsch, Manesty, Natoli, and Stokes machines, at www.natoli.com.

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President

Dr. Charles N. Kettler,
Director, Natoli Scientific

William Cason,
Director, Natoli Metallurgy
Natoli stocks more than 250,000 premium parts for almost every manufacturer, including: Fette, Korsch, Kilian, Kikusui, Manesty, Stokes and Colton. Natoli parts are quality engineered and known for their durability, often outperforming the Original Equipment Manufacturers’ parts.

From springs and screws to cam tracks and turrets, Natoli has the tablet press replacement part you need.

Natoli stocks more than 250,000 premium parts for almost every manufacturer, including: Fette, Korsch, Kilian, Kikusui, Manesty, Stokes and Colton. Natoli parts are quality engineered and known for their durability, often outperforming the Original Equipment Manufacturers’ parts.

Visit our website today and discover the Natoli difference.
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
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 ingredients backed by extensive research, multiple clinical & safety studies, and intellectual property.
Natural Alternatives International
World Leader in Nutritional Science


The Company
Natural Alternatives International Inc. (NAI) is a leading formulator and manufacturer of customized nutritional supplements. The company’s comprehensive partnership approach to client servicing is unique within the industry, combining clinical research, science-based formulation, advanced quality-assurance testing methodologies, and superior manufacturing and packaging capabilities to create nutritional products that are formulated to address specific health conditions.

NAI has achieved a position of prominence in the natural products industry due to its commitment to quality and scientific integrity. NAI opened its doors 36 years ago and met cGMP compliance long before FDA implementation in the nutraceutical industry, ensuring that our customers’ products were safe, compliant, and made with scientific integrity. NAI provides a global presence with well-known manufacturing facilities in the United States (California) and Europe (Switzerland), as well as a presence in Japan.

NAI’s founder, chairman, and chief executive officer Mark LeDoux is considered a pioneer of the modern dietary supplement industry. He is a current member and Past Chair of the prestigious Council for Responsible Nutrition (CRN) and Founding Chairman and a member of the Board of CRN-International. LeDoux has been a member of the Natural Products Association since 1980 and currently serves as its President. He also serves on the Board of Nutrition Industry Association West.

NAI’s regulatory review of formulation compliance along with international certifications makes it easy to register and distribute products across country borders and regional trade zones. NAI’s customers distribute nutritional products in more than 36 countries.

CarnoSyn® Brands
NAI is the exclusive supplier, patent holder, and trademark owner of CarnoSyn® and the latest muscle science innovation, SR CarnoSyn® sustained-release beta-alanine. Both materials can be purchased as an ingredient or turnkey finished product. NAI can create your science-based, custom formulation for tablets and powders in a variety of packaging options. CarnoSyn® beta-alanine has been scientifically proven to:

- Increase muscle carnosine for prolonged periods*
- Increase muscle buffering capacity*
- Decrease acidosis*
- Improve endurance*
- Delay fatigue*
- Increase strength*
- Speed recovery from exercise*

NAI Licensing and Certifications
- NAI meets USP standards – U.S.
- NSF cGMP and Sport certifications – U.S.
- Australian TGA certification – U.S.
- Canadian cGMP certification by Health Canada – U.S.
- Pharmaceutical license through SwissMedic – Europe
- Organic Processor and Handler certified by NFC – U.S.

* 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.
Visit CarnoSyn® & NAI at Booth #EE177

CarnoSyn® - SUSTAINED RELEASE BETA-ALANINE
SupplySide West • October 6 - 7, 2016

WHY CHOOSE CARNOSYN®?

MUSCLE SCIENCE
24 PATENTS GLOBALLY
55+ SCIENTIFIC STUDIES

BUILD A BETTER MUSCLE
100% PROVEN RESULTS
0 BANNED SUBSTANCES

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Custom Supplement Manufacturer • Tablets • Capsules
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On-site Analytical Testing

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Visit our website to take the virtual tours of our U.S. & European facilities!
Description
Nature*4*Science is proud to announce that in the 15 years of business, our quality record has been high ranking in the ingredients supplying industry. We stand behind every active ingredient/component stated on the certificate of analysis. We are a quality guaranteed ingredients supplier/manufacturing partner that undergoes stringent testing to give all customers a dependable starting ingredient. Nature*4*Science is home to New-Gar(R): a leading nutraceutical garlic, Zaffronel(R): Spanish saffron extract, Cetyl myristoleate and more. Check us out at: www.nature4science.com

Most Popular products:
- New-Gar® Garlic
- New-Gar® Certified Organic Garlic
- Zaffronel® Saffron extract (Crocus Sativus L) 2% safranal
- CMO20/CFO20(R) Cetyl myristoleate
- New-MACA6MEGA(R) & New-MACA4MEGA(R)
- New-MEGACAI(R)
- New-PC Omega(R)

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Major Markets:
Nutritional Supplements
Functional Foods and Beverages
Pharmaceutical Industry
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.

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Nutritional Outlook
■ JULY/AUGUST 2016

Delivering Consistent Beta-glucan Potency
The real difference between lab-grown mycelium and greenhouse-grown mushroom ingredients.

At NAMMEX, we believe in delivering consistent, certified organic, beta-glucan rich extracts. Which is why we grow our mushrooms in greenhouse environments on native nutrients. It’s as close to natural growing conditions as humanly possible. And it guarantees high levels of beta-glucan potency.

Ongoing Megazyme* test results consistently prove the value of our decision. NAMMEX extracts from the mushroom produce significantly higher average levels of beta-glucan and next to no starch. The opposite is true of mycelium-on-grain produced in a sterile laboratory environment.

Time to get back to natural?

* Ongoing testing conducted by SES Labs Vancouver and Megazyme Ireland International.
Description
We supply printed packaging solutions from design and development to completion to help natural health companies stand out in a crowded world. Ultimately, it’s our duty to provide customers with packaging that improves the Marketing, Reputation, and Shelf Appeal of their products.

Major Markets
Natural Health
Pharmaceutical
Personal Care
Personalization

Major Products
Cartons
Labels
Multi-Panel Labels
Blister Cards

Specialized Services
Diversion Solutions
File Prep/Design
Packaging Engineering
Decorative Capabilities
Kitting

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Tel: 847/504-6409
Web Site:
www.nosco.com/natural-health
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Sales & Marketing
Scott Booth,
Regional Packaging Leader
Brent Anderson,
Packaging Advisor
PRINTED PACKAGING
from concept to completion, helping Natural Health brands stand out & sell

Visit nosco.com to get your Project Estimate  @NoscoKnows
Healthco

Description
Since 1991, Healthco®, a division of NOW® Foods, has been providing health product retailers and manufacturers with superior bulk and raw materials, private label services, dietary supplements, and natural sweeteners. We offer an extensive selection of value-driven, science-based products and with reliable customer service.

Healthco believes that quality products begin with the best raw ingredients. From our GMP-certified facility, we manufacture and test all raw materials and finished products to ensure identity, purity, and potency. Many products utilize patented, trademarked, and branded ingredients. Direct importing, state-of-the-art manufacturing technology, extensive quality control, and long-standing vendor relations allow Healthco to offer a wide range of nutritional products at competitive prices.

Whether you’re looking for bulk powders or finished, shelf-ready formulas, Healthco offers one of the industry’s most extensive inventories. Our highly-skilled QC/QA department holds all raw material providers to meticulous quality, safety, and purity standards, and all raw materials are thoroughly inspected upon arrival. Raw materials have to pass tests for microbial contamination in our on-site testing facility. This is one of the ways we ensure that customers are provided with products that are safe, highly stable, and fresh through the best-by date.

Healthco’s private label program makes it easy to tailor one’s own line of premium natural health products, and can be completely personalized to fit a company’s image. We offer hundreds of popular products to choose from with low minimums. Creating one’s own line of products is easy to start. From choosing the best products and formulas, to developing a label that jumps off the shelf, Healthco’s team will guide customers through each step of the private label process.

Healthco offers a unique stevia extract, available in bulk or private label formats. Known as Stevia FSE™ or BetterStevia™, this raw material undergoes a natural de-bittering process, which yields a smoother and cleaner taste profile than any other stevia currently on the market. It is also one of the very few certified organic and GRAS (Generally Regarded As Safe) stevia extracts available for use in vitamin supplements, foods, and beverages.

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Bringing Your Vision to Reality

“A” Rated GMP Manufacturing Facility

Stevia and Xylitol Packet Manufacturing

Certified Organic by QAI

Low Minimums

Large Selection of Finished Goods and Raw Materials

Liquid Supplement Manufacturing

Trademarked Quality Ingredients

Bulk Supplements
Powders, Capsules, Tablets

Private Labeling
Complete Product Lines

Personal Care
Essential Oils

Raw Materials
Single Ingredients

Healthco
Offering: bulk ingredients, supplements, personal care and private labeling services
800.477.3949  healthco-intl.com
NP Nutra

Description
Formed in 1998, NP Nutra™ (Nature’s Power Nutraceuticals Corp.) has grown to be a leading world supplier of premium-quality ingredients for the dietary supplement, functional food, and beverage industries. NP Nutra’s products meet the demands of even your most discerning consumer.

Our renowned line of wholesale ingredients includes:
- Popular superfruits, including Acai, Goji, Pomegranate
- High-potency antioxidants
- Botanical extracts and herbs
- Certified Organic and Kosher products
- Hard-to-find ingredients

Major Markets
Functional Foods and Beverages
Nutrition and Health

Major Products
Acai, Acerola, Alfalfa, Barley Grass, Blueberry, Camu Camu, Chlorella, Coconut, Goji, Maca, Mangosteen, Maqui, Moringa, Noni, Papaya, Pomegranate, Schisandra, Spirulina, Strawberry, Turmeric, Wheatgrass

Specialized Services
Formulation Development

Signature Ingredients
AçaíVida™ – Acai juice powder rich in Omega 3-6-9, amino acids, and anthocyanins
BettaBerries™ Antioxidant Blend – A proprietary blend of the world’s most phytonutrient-rich berries
CocOganic™ – Outstanding organic Freeze-Dried Coconut Powder high in electrolytes
Green Balance Alkaline Blend™ - A synergistic “green” formula of concentrated alkaline superfoods
MacaXtra™ – Concentrated 100% Organic Maca Root Powder with approximately 1% Glucosinolates
MangosteenRoyale™ – Potent Whole-fruit Standardized 10:1 Extract with exceptional ORAC content
MaquiForza™ – High-Potency Freeze-Dried Organic Maqui Berry with exceptional ORAC levels
NutraGrass™ – Premium Concentrated Wheatgrass Powder – up to 70% Chlorophyll
NutraProtein Power Blend™ – Specially formulated mix of plant-based protein, amino acids, and nutrients
PapayaFlow™ - Papaya Juice Powder – Naturally rich in enzymes, Beta-Carotene, and Lycopene
SachaOmega™ – One of the richest plant sources of omega-3-6-9
XandraPure™ – Organic High-Grade Schisandra Extract – Exceptional Adaptogen – Water Soluble

Leading the world in Nutraceuticals
• Premium Signature Ingredients
• Superfruits and Greens
• High Potency Antioxidants
• Certified Organic Ingredients
• Custom Blends

October 6 - 7, 2016
Mandalay Bay
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Leading the world in Nutraceuticals
NSF International

Description
NSF International is a global independent organization that writes standards, and tests and certifies products for the water, food, health sciences and consumer goods industries to minimize adverse health effects and protect the environment. Founded in 1944, NSF is committed to protecting human health and safety worldwide.

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, accredited product certification programs and testing services.

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 wrote the only accredited American National Standard (NSF/ANSI 173) that verifies the health and safety of dietary supplements, 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 200 athletic banned substances to ensure the product is free of substances on the WADA, NFL and MLB prohibited substances lists.

NSF AuthenTechnologies® is an ISO/IEC 17025 accredited provider of innovative genetic technologies to improve the authenticity, safety and quality of natural products such as dietary supplements and dietary supplement ingredients including botanicals. NSF AuthenTechnologies® uses a proprietary method called target-specific DNA sequencing™ that provides the most accurate and reliable identification of species and detection of unexpected contaminants, even those that are morphologically or chemically indistinguishable. Unlike other DNA testing methods, we can analyze highly processed or degraded materials, complex blends and adulterated or contaminated products.
From raw ingredients to finished product, NSF globally tests and certifies dietary supplements and trains your staff to the highest standards of GMP compliance.

The right people. The right solution. The first time.™
NuLiv Science USA Inc.

Description
NuLiv Science specializes in the research and development of proprietary and clinically proven nutraceutical and cosmeceutical ingredients through a unique platform of traditional and modern scientific processes. Since 1997, we have been serving our customers’ sourcing and research needs with an emphasis on quality and efficacy. By combining the history of traditional Chinese medicine and the thorough analysis of modern science, we are able to deliver unique, validated compounds targeted toward everything from absorption enhancement to sports performance. Our clientele base, from large MLMs to natural health practitioners, are as diverse as our botanical ingredient offerings. Whether you’re just starting out in the industry or are looking to expand into a new vertical, we can assist you along the way. Our research team and network of scientific advisors can help with formulations, efficacy, and standardization analysis and production of high-potency extracts. Our branded ingredient line includes AstraGin, ActiGin, OsteoSine, InnoSlim, ImmuProp, and our Prime mushroom line.

AstraGin — A U.S.-patented ingredient for enhanced nutrient absorption, AstraGin has shown in multiple studies to help aid the uptake of amino acids such as arginine and tryptophan as well other as other vitamins and minerals. Utilized by some of the biggest brands in the sports and body building category, AstraGin can help energize your product lineup. Self-affirmed GRAS, kosher certified.

ActiGin — A proprietary, high-sports performance nutraceutical that is the culmination of seven years of research. Multiple studies, including a randomized human clinical trial, have shown ActiGin can increase glycogen storage and delivery to muscle tissue as well as reduce muscle damage in rats and humans during and after high-intensity physical activities.

Verbasnol — A proprietary verbascoside ingredient isolated from the Rehmannia plant, shown in multiple studies to aid with acne and male-pattern balding through inhibition of 5-alpha reductase.

PRIME mushroom line — We have been marketing and supplying high-quality mushroom extracts since 1997. We test each production batch for heavy metals, pesticides, and standardization levels to ensure it meets your specs. Those who want maximum efficacy and quality in their mushroom formulas choose NuLiv.
AstraGin™
Maximize your supplements bioavailability

ULTRA PREMIUM NUTRIENT ENHANCER
Cellular Transport Amplifier Ingredient
- Absorption enhancer for amino acids, creatine, beta-alanine & more
- GRAS self-affirmed
- Marketplace validated, over 200 million servings sold to date

SHORTER RECOVERY TIME
Sports Nutrition Ingredient
- Decreased inflammation markers, higher glycogen synthesis in muscle tissue
- GRAS self-affirmed
- Human clinical published in PLOS One

Manufactured by NuLivScience
sales@nulivusa.com | www.nulivscience.com | (909) 594 - 3188
Nutraceuticals International Group

**Watts’Up** - Our exclusive patented ingredient, is a bioflavonoid complex naturally present in citrus fruit found in Spain. It is designed to help both trained athletes and hobby athletes to increase their performance. It is highly bio-available and is shown to be actively circulating in the body within minutes.

**Slimpro®** – Weight Management (appetite control, satiety, curb sweet hunger). Slimpro® (patent pending) is a fish peptide enriched with BCAAs. It works naturally with the human physiology by increasing the hormones CCK and GLP-1, which further sends messages to the brain to control hunger. www.slimpro.eu

**a-LACYS RESET®** – Weight Management (fat burning), Sports Nutrition (recovery, strength training), Antioxidant, Women’s Health (antiaging, menopause). It is a patented, synergistic combination of ALA and cysteine that modulates cell redox balance (reduction and oxidation) by controlling and neutralizing more radicals related to intense training, aging, and general disorders.

**SynBalance®** – Allergy Reduction, Antioxidant, Antimicrobial, Body Defense, Heart Health, Digestive Health (intestinal disorders, intestinal microflora). A range of selected probiotic bacteria guaranteed to be allergen free. It is obtained in very high concentration and with very good manufacturing yields using pharmaceutical technologies and is characterized by very good stability.


**ExceptionHYAL®** – Oral Health, Anti-Inflammatory (joints, skin) Joint Health, Antiaging, Skin Moisturization, Gastrointestinal Protection. This pure sodium hyaluronate is suggested for regeneration of synovial fluids, healing promotion, and antiaging.

**SelectSIEVE® Apple PCQ** – Weight Management, Drainage, Menopause, Glucose Absorption, Glycemic Index Control. The ingredient is derived from 100% apple juice through an eco-sustainable process and comprises three primary functional polyphenols: phloridzin, chlorogenic acid, and quercetin.

**SelectSIEVE® Bergamot** – Antioxidant, Heart Disease, Cholesterol Management, Hypoglycemic. This ingredient is derived from 100% bergamot juice whose natural hypolipidemic, hypcholesterolemic, and hypoglycemic effects are well known. It is standardized with polyphenols that have been recognized to be responsible for “statin-like” action, without the typical side effects of statins.

**SelectSIEVE® Olive** – Antioxidant, Anti-Inflammatory, Antimicrobial, Heart Health. It is an extract containing highly concentrated flavonoids from the olive, universally recognized to help maintain heart health, to reduce atherosclerosis, to improve the LDL-HDL ratio, and to activate endogenous antioxidant enzymes.
**NaturSyn® Defense** – Seasonal Allergies, Acute Stress, and More. It is a concentrated hydrogel rich in vitamins, minerals, and essential amino acids derived from oyster mushroom extract and *Secale cereale* extract (rye family).

**NaturSyn® Beaulixir** – Especially designed to help recover hair and skin health affected by impaired and unbalanced physiology.

**Progestive™** – Beneficial bacteria that improves gut health, vaginal flora, and enhances the immune system. Available as a 6 billion and a 15 billion strain.

**Intimique™** – Prevention & treatment of vaginal bacterial and yeast infections. Restoration of vaginal healthy conditions. Product line based on Synbalance® probiotics.

**Natural & Artificial Flavors** – 100% water soluble – FCC Approved – Custom blends

Contact us for your flavor needs.
**Nutralliance Inc.**

**Description**

Nutralliance is a supplier of premium ingredients to the food, pet and nutritional 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. Now we continue to grow with a new Midwest office for 2016 and with the hiring of Steve O’Brien as our technical director to further improve our supply and our level of service.

**Proudly Representing**

AOM is a leading producer of natural tocopherols, one of the most effective and widely used natural antioxidants in the market today. Their products fit the current needs of a wide number of industries including food and beverage, feed, nutritional, and personal care. AOM is constantly upping the non-GMO and non-allergen game with innovative new products like their tocopherols from rapeseed and their extensive line derived from sunflower.

**Natural Vitamin E from Sunflower**

- NLT 900 IU and NLT 1,000 IU/g d-alpha tocopherol
- Truly natural, exactly as produced by the plant, without undergoing methylation
- Clean label, non-allergen
- Non-GMO Project verified

Also Available: Sunvolec™ Sunflower Lecithin Liquid, Mixed Tocopherols from Rapeseed, Sunvasterol™ Phytosterols from Sunflower

Bio-gen Extracts is a GMP Certified company that specializes in the process development and manufacture of active pharmaceutical ingredients, nutraceutical raw materials, food ingredients and colors, and natural extracts. With the opening of their new facility in 2014 containing state of the art equipment, Bio-gen is in a constant state of product and process innovation.

**Natural Lutein**

- Derived from Marigolds
- Oil/Powder forms
- Esters and Free
- Seed to Drum transparency

Also Available: Beta Caro-gen™ Natural Beta Carotene, Lycopene, Natural Mixed Carotenoids, and Jaggery (Palmyra)
Nutraveris

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Key Personnel
Cédric Bourges
CEO

NUTRAVERIS is the leading European consulting company regarding Scientific & Legislative affairs in Nutrition and Health. Our mission is to support successful business strategies in Europe with scientific and regulatory services. We support innovation, formulation and scientific substantiation for our customers as well as we validate the Legislative status of your products and make them authorized in all Europe.

With a strong team of scientific and regulatory experts and a unique and real-time database, Nutraveris helps you to:

- Review the scientific state of the art (efficacy-safety)
- Formulate the best product in order to differentiate you from others.
- Analyze the regulatory compliance of your composition and communication.
- Find the right strategy to authorize your innovations.
- Develop your clinical studies in order to prove the efficacy of your products.
- Prepare and submit your health claim + NOVEL FOOD applications files

The most efficient DATA Solution to design and launch your products in the 28 European Member States

- Create the best products in their categories
- Solve all regulatory issues
- Protect your investments
- Be the most responsive

All authorized ingredients in Europe (Vitamins, minerals, botanicals, substances, additives…)

Regulatory status, health claims, efficacy and safety studies…
NEW: finished products benchmark

Personalized and customizable alerts

Real time updates

Hotline with our experts
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nutraveris.com
NutraQ
Quality Supplier of Specialty Ingredients

Description

From our headquarters in Oslo, Norway, we work with our distribution partners in North America, Europe, and Asia-Pacific to ensure our ingredients are available in most global markets.

In addition, NutraQ formulates and manufactures a broad range of dietary supplements and other health-related products for our sister companies.

NutraQ is proud to be a part of Sana Pharma, an international holding founded in 2002 with businesses in nutraceuticals, natural medicines, and specialty health ingredients.

Our Ingredients

**Nutramunity™ Beta-Glucan (NBG®)**
Nutramunity™ is a versatile immune health ingredient for nutraceuticals, sports nutrition, functional food, and beverages. The ingredient can also be used in skincare formulations and personal care products.

Nutramunity™ Beta-1,3/1,6-Glucan (NBG®) is a potent and safe immune-enhancing component isolated from baker’s yeast (*Saccharomyces cerevisiae*) that helps support healthy immune function.

NBG® is naturally derived, non-GMO, kosher- and halal-certified, non-allergenic, GMP-produced, and Informed-Sport™ and Informed-Choice™ certified. It is also EU Novel Food–authorized and US FDA GRAS–recognized.

Nutramunity™ is available in three grades:
- NBG® Particulate: food and beverage grade, >75% beta-glucan, dry fine powder
- NBG® Suspension: cosmetic grade, 5% dispersion of beta-glucan in water stabilized with 0.4% phenoxyethanol
- NBG® Sport: food and beverage grade for sports nutrition, >75% beta-glucan, dry fine powder, Informed-Sport™ and Informed-Choice™

Nutramunity™ can be incorporated as an ingredient in a variety of product formats:
- Nutraceuticals: hardgel and softgel capsules, stick packs, and combination formulations
- Snacks and confectionery: protein and soy protein bars, nutritional snacks, sports nutrition, and chocolate confections
- Dairy and beverages: yogurt, yogurt beverages, milk and soymilk beverages, meal-replacement beverages, fruit smoothies, sports and functional drinks
- Bakery and cereals: bread and cake mixes, cookies, cereals, breakfast and granola bars
- Convenience foods: soups and soup mixes
- Personal care: lotions, creams, gels, serum, after-sun lotions, lip balms and lipsticks

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**Key Personnel**
Atle Strande,
CEO
Simon Seward,
Commercial Director
Nutramunity™ is a beta-1,3/1,6-glucan, a versatile immune health ingredient for functional food, beverages, nutraceuticals and sports nutrition that supports healthy immune function. Nutramunity™ interacts with immune cells in the frontline of the body’s defenses, safely priming these cells to respond faster and more effectively.*

Discover more at nutramunity.com. For commercial enquiries in North America, please call AIC: 800-238-0001

*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.
Nutrition 21, LLC

Cutting-Edge Sports Nutrition and Weight Management Ingredients Supported by Well-Controlled Human Clinical Studies

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

Nutrition 21’s scientific platform has created unique, patented products that are safe and clinically effective. Rigorous preclinical and clinical trials are a key part of its product development strategy to ensure safety and consumer trust. Nutrition 21 currently holds more than 100 issued and pending domestic and international patents.

Nitrosigine® is a patented complex of bonded arginine silicate with FDA NDI notification status, affirmed as GRAS, and made in the U.S. Pre-clinical and clinical studies support the use of Nitrosigine as a highly bioavailable source of arginine and silicon. Consumer benefits include: enhancing key factors for increasing blood flow, boosting nitric oxide levels, increasing energy quickly, improving mental acuity and focus within 15 minutes, increasing muscle volume, and reducing muscle damage from exercise.

New Velositol™, made in the U.S., 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. Muscle protein synthesis is a key to both muscle growth and muscle recovery.

Chromax® chromium picolinate is U.S. manufactured, Prop 65 compliant*, and 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 provides Nutrition 21’s customers with marketable substantiated claims and numerous health benefits for the consumer. Chromax is a perfect nutrient to formulate into products positioned to address health and lifestyle issues that are of increasing concern to consumers, such as cognitive function, weight management, food cravings, mood, and glucose metabolism.

*Proposition 65 compliance independently verified for arsenic, cadmium, hexavalent chromium, lead, and mercury levels. DRA726072216

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www.nitrosigine.com
www.velositol.com
E-mail: jweiss@nutrition21.com
blevi@nutrition21.com

Key Personnel
Joe Weiss,
President
Bill Levi,
Vice President, Operations and Business Development
Nitrosigine® from Nutrition 21—enhances performance to give your sports nutrition product the competitive edge.

- Elevates arginine levels for up to 6 hours\(^1\)
- Increases energy quickly and safely\(^{2,6}\)
- Improves mental acuity and focus within 15 minutes\(^3\)
- Increases muscle volume\(^{1+4-6}\)
- Reduces muscle damage from exercise\(^{12,6}\)

Our integrated co-promotion program communicates the powerful benefits of Nitrosigine to your customers, generating millions of consumer impressions!

Pump up sales with Nitrosigine!
Visit Nutrition21.com or call (855) 648-7674 for details.

\(^1\)Results compared to baseline.


\([*/0.01 \text{ vs. other ingredients}]\)

\(\mu\text{M nitrite}\)
At Organic By Nature Inc., we understand the time-sensitive nature of contract manufacturing and have gathered a talented pool of professionals to run our advanced equipment and facility. Our trained cGMP-certified and dedicated staff collectively provides experience from all facets of the health industry, as well as product knowledge that is critical in producing high-quality products. From product conception, formulation, sourcing raw materials, blending, and packaging, we can confidently fulfill your custom manufacturing needs.

**Custom Formulation**: Our experienced team can formulate and develop prototype products for your brand. With multiple product offerings on the market, consisting of over 50 unique products, Organic By Nature has the experience and knowledge to take the guesswork out of creating a new product or product line.

**Blending**: Our trained staff has many years of experience and can expertly accommodate the most complex formulas. Strict quality control verifies the identity and consistency of the blended materials.

**Encapsulation**: We utilize premium two-piece gelatin or vegetarian capsules in multiple sizes to meet various requirements. Meticulous quality-control procedures guarantee the uniformity and quality of the capsules produced.

**Powder Filling**: Our climate- and moisture-controlled facility ensures the freshness of the powder, from bulk packaging to finished products.

**Tablets**: We can help with your custom tablet-manufacturing needs. We are equipped with a full line of tablet machines capable of producing various-sized tablets.

**Export**: With exporting experience in over 60 countries located in all regions of the world, Organic By Nature Inc. can accommodate your international inquiries for whole-food nutrition supplement products and services.

Organic By Nature (Long Beach, CA) entered the industry in 1993 and quickly set a new standard for pure, potent, and cutting-edge nutritional products. As the “one-stop-shop” company, we complement our organic, kosher, and cGMP-certified contract manufacturing services with an extensive list of organic raw materials.
The ONE STOP SHOP for all your Organic, Natural & Whole Food supplement needs

With over 20 years of experience in manufacturing premium quality supplements, Organic By Nature, Inc. understands the need for timely, efficient and accurate work. Our GMP, Organic and Kosher Certified Southern California facility is staffed with skilled and experienced specialists ready to execute your contract manufacturing needs.

GMP Contract Manufacturing & Raw Materials

- Southern California Based Custom Manufacturer
  - Organic Certified
  - GMP Certified
  - Kosher Certified
  - Over 20 Years Experience

- Contract Manufacturing Services
  - Powder Filling
  - Tablets
  - Capsules
  - Blending
  - Bottling
  - Pouching
  - Turn Key Products

Call us at 800 452 6884 or visit us at organicbynatureinc.com to get information & quote on your project today!

Convert your current product to an ORGANIC CERTIFIED & GMP MANUFACTURED Product! Contact Us Today.

Your new COMPETITIVE ADVANTAGE.

Organic By Nature, Inc. has built a reputation on being a superior source for all green food/superfood ingredients. Over the years, we have expanded our raw material offerings to include organic algae products, concentrated vegetable powders, fruit powders, sprouts and several patented, one-of-kind components. Utilizing our experience, relationship with growers/processors and intelligent inventory control, Organic By Nature, Inc. has developed a line of standard organic certified pre-blends. These pre-blends reduce the costs of sourcing, processing and blending of individual raw materials.

We are proud to offer these blends for your next private label project or addition to your current formula, please contact us for more details.

1495 Seabright Avenue, Long Beach, CA 90813 • Tel: (800) 452 6884 | (562) 901 0177 • www.organicbynatureinc.com
Description
Organic Technologies is the producer of MSC-certified AlaskOmega® fish oil, including omega-3 concentrates, natural fish oils, and newly launched 50% omega-7 concentrate. We start with wild-caught Alaska Pollock oil from Alaska’s Bering Sea, which is further refined and concentrated in our NSF-certified GMP facility in Ohio.

AlaskOmega® omega-3 concentrates are available up to 85% Total Omega-3, and lead the concentrate market in oil freshness. The company recently reduced the Total Oxidation (TOTOX) limit for all its omega-3 products to 5, more than 5 times below the GOED industry standard of 26, with typical values ranging between 0 - 3.

Products
AlaskOmega® Omega-3 Ethyl Ester Products (EPA/DHA)
- 30% Total Omega-3
- 360/240
- 400/200
- 460/180
- 460/240
- 400/300
- 570/230
- 600/200
- 700 EPA
- 800 EPA
- 100/500

AlaskOmega® Omega-3 Triglyceride Products (EPA/DHA)
- 300/200
- 400/200
- 530/200

Natural Alaskan Fish Oils
- Wild Alaska Pollock Oil

AlaskOmega® Omega-7 Palmitoleic 500
Globally recognized ingredients and technologies

OmniActive Health Technologies offers a wide range of innovative and scientifically validated ingredients for dietary supplementation, nutritional fortification and functional food/beverage formulations.

Whether looking for a new ingredient to add to a finished product, or an ingredient solution to enhance an existing ingredient, you will find unmatched innovation at OmniActive.

OmniActive Health Technologies

Tel. 866-588-3629

omniactives.com

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Lutemax 2020, Lutemax Free Lutein, Lutemax Lutein Esters, OmniXan RR-Zeaxanthin, OmniXan RS RS (Meso)-Zeaxanthin, Capsimax, CurcuWIN, Gingever and OmniLean are trademarks of OmniActive Health Technologies Ltd.
Description
Since 2007, Orgenetics, Inc. has been changing the world of vitamins with the introduction of Orgen® brand ingredients.

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.

Clients Served: We are proud to say that in our 9-year history, we have expanded our supply and operations across 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.
Why can’t I lose weight?

It’s the CARBS, Duhh!

Recent studies have shown that carbs are the real culprit when it comes to weight gain. Taking Phase 2 Carb Controller® before a carb-rich meal can reduce the digestion of starch and help consumers manage their weight. Phase 2® has been shown to be safe and effective in over a dozen separate studies since 2001.

Help your customers focus on why they gain weight.

Phase 2
CARB CONTROLLER®

“Enjoy a little more. Absorb a lot less!”

Visit phase2info.com
call 1-800-526-0609 (201-246-1000 outside the U.S.)
sales@pharmachemlabs.com

These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.
Pharmachem Laboratories Inc.

Description
Pharmachem Laboratories, Inc. is a global manufacturer and supplier of high-quality custom and specialty ingredients, as well as advanced process services, to the nutrition industry. Founded in 1979, the company has achieved NOP-Certified organic processor status, and operates cGMP-approved facilities to produce the purest ingredients, in a variety of forms, for specific applications. Through strategic acquisitions and investments, Pharmachem has become a vertically integrated company, enabling it to add “value” at every step in the production process—from field to market.

Specialty Ingredients:
Pharmachem is the developer of Phase 2 Carb Controller® and Prenulin® Natural Glucose Control. Pharmachem also markets several other proprietary brands: Cran-Max® Cranberry Concentrate; Celadrin® Joint Flexibility & Relief; InoCell™ Natural Protection (Inositol & Cal-Mag IP6); and Lactium® Stress Management through Nutrition.

Markets
Natural products, food and beverage, pet, private label and direct sellers.

Services
Pharmachem is a global leader in application-specific processing of healthy ingredients, including:

- Custom extraction
- Fractionation
- Fermentation
- Drying
- Liquid-to-powder conversion
- Granulation
- Agglomeration
- Blending
- Nutrient fortification
- Ready-to-drink powders
- Beverage processing and packaging

All ingredients are standardized for specific potency, solubility, direct compression, and disintegration characteristics.
Quality Assurance and Certification
Pharmachem is a multicertified manufacturer operating cGMP facilities to produce the highest-quality ingredients. Specific qualifications include:

- NOP certified organic
- NSF certified
- HACCP
- AIB Superior
- Kosher
- Halal

Contact the Solutions Team at ask@pharmachemlabs.com, or call 1-800-526-0609.
Pharmore Ingredients Inc.

**Background**
- Supplier of ingredients to dietary supplement and animal nutrition industries
- Staffed with 90+ years of industry experience
- Office locations in USA and China
- Founded in 2001

**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

**Commitment to Quality**
- On-site cGMP compliance audits
- Compliant with current FDA regulations
- Continuous improvement program
- In-depth manufacturing knowledge

**Corporate Headquarters**
Pharmore Ingredients Inc.
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E-mail: customerservice@pharmore.com

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

Award-Winning Customer Service

cGMP Audited Factories

Rigorous 3rd Party Testing

Certified Documentation

Worldwide Sourcing
Prinova USA
Making Ideas Happen

Description
Prinova is the leading global supplier to the food and nutrition industries of high-quality, complete ingredient, flavor, and blending solutions, complemented by superior market knowledge and exceptional customer service. Prinova holds strategic stocks in distribution centers around the world to ensure continuity of supply and is the largest supplier of Ascorbic Acid (Vitamin C), B Vitamins, and Amino Acids. Prinova also has a full-service R&D Application Laboratory with a team of application and technical specialists to help customers develop, improve, and enhance the taste and function of their products. Prinova’s facilities are BRC-certified Grade A. Corporate headquarters are in Illinois, with offices across the United States, as well as in the United Kingdom, Canada, Mexico, Spain, Germany, Belgium, France, Turkey, and China.

Prinova is proud to be a leading supplier of ingredients, flavors, and nutritional blends for the nutrition industry. With a full library of proteins, essential amino acids, sweeteners, and supplement ingredients and the ability to flavor, enhance, and formulate products, Prinova is the only place to go for any nutritional needs. Prinova’s sports nutrition expertise in the lab helps dedicated application technologists work with customers on their next big idea. This expertise comes into play when overcoming the toughest challenges in nutrition—from masking bitter-tasting amino acids to overcoming foaming and texture in protein. No matter the challenge, Prinova has the solution.

At Prinova, we are proud to offer more than just the industry’s best ingredients. We provide what no one else can: everything you need for your unique formulation. With just the right ingredients, flavors, and nutritional blends, and specialists who truly know how to solve your challenges, you can come to us knowing you’ll achieve the best solution possible. Just bring us your idea…and we’ll make it happen. Whether you work alongside us on our bench, work with us virtually, or let our experts formulate, we’ll make sure your product is the best it can possibly be.
At Prinova, we offer more than the industry's best ingredients. We provide what no one else can: everything you need for your unique formulation. With just the right ingredients, flavors and blends, and specialists who truly know how to solve your challenges, you can come to us knowing you'll achieve the best solution possible. Just bring your idea...and we'll make it happen.
Rochem International, Inc.
Your Bridge to Quality

**Description**
Rochem International is an ingredient supplier who has been servicing the food, dietary supplement, sports nutrition, pharmaceutical and animal health industries since 1994. Through the years, we have carefully selected the finest Chinese manufacturers to partner with. Our commitment to our customers is that we will provide value by helping reduce costs and achieve the highest standards of quality, all while securing the supply chain and providing a level of compliance and customer service that others cannot.

**Facilities**
Rochem’s 60,000 sq. ft. global headquarters and main North American warehouse facility are located in Hauppauge, NY. As a result of having both the administrative offices and main warehouse under one roof we have the ability to provide same day expedited shipments for raw materials that we stock from our Chinese manufacturing partners. Rochem also maintains stock across the USA as well as in Canada and Europe. Rochem has sales office throughout North America and Europe, as well as a wholly owned office in Qingdao, China that is staffed with a well-trained regulatory and technical logistics team which enables us to audit our manufacturing partners’ sites for compliance with GMPs, as well as effectively source new material.

**Corporate Headquarters**
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**Key Personnel**
Robyn Frisch,
Founder/CEO
Matt Thiel,
President
Charles Dods,
Executive Vice President
Rick Peterson,
Senior VP of Nutritional,
Food & Beverage

**Products**
- Nutritional Ingredients
- APIs – Rx – OTC – Vet
- Sweeteners
- Vitamins

**ROCHEM**
YOUR BRIDGE TO QUALITY

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
Ruspak

Corporate Headquarters
Ruspak Contract Packaging Services
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Lyons, NY 14489-0029

Tel: 315/946-9777
Fax: 315/946-9525
Web Site: www.ruspak.com
E-mail: tbrickle@ruspak.com

Key Personnel
Tim Brickle
President

Paul Mierzwa
Vice President

Andrew Brickle
Materials Manager

Description
Ruspak is the exclusive packager for many nutraceutical, dietary supplement, food and pharmaceutical companies. Others work with Ruspak to supplement in-house capabilities or to test-market packaging concepts. Customers work directly with one of the owners, each of whom has more than 25 years of packaging experience and decision-making authority, to make things happen quickly.

For more than 55 years, Ruspak has supplied pouches, bottles, blisters, strip packages, overwrapping and cosmetic packaging to leading nutraceutical, food and pharmaceutical manufacturers. Secondary services, such as shrink-wrapping, labeling and cartoning, are also offered, as are design services.

Whether you manufacture tablets, capsules, liquid, gels and ointments or powders and granules, you can count on Ruspak for quality, reliability, security, confidentiality and on-time delivery.

The bottom line is that Ruspak wants to earn your business.

We Package YOUR Products

RUSPAK is a trusted Packaging Partner to many companies in the pharmaceutical, dietary supplement, food and personal care industries.

PRODUCTS PACKAGED
• Tablets
• Capsules
• Powder & Granule
• Liquids
• Gels & Ointments

PACKAGING CAPABILITIES
• Blisters
• Bottles
• Cartons
• Tubes
• Pouches
• Overwrapping, Shrinkwrapping and other Secondary Packaging

REGISTRATIONS & CERTIFICATIONS
• FDA
• New York State Board of Pharmacy
• GMP Compliant
• Independently audited by NSF

For quality, reliability, security, confidentiality and on-time delivery, CALL US.
Sabinsa Corporation

Our Innovation Is Your Answer®

**Description**
Sabinsa Corp., founded in 1988, is a manufacturer and supplier of herbal extracts, cosmeceuticals, minerals, and specialty fine chemicals. Sabinsa’s mission is to provide alternative and complementary natural products for human nutrition and well-being. Over the past 20 years, Sabinsa has brought to market more than 100 standardized botanical extracts and privately funded several clinical studies in conjunction with prestigious institutions in support of these products. Its present operations have grown to employ 1000 people worldwide in 10 manufacturing, R&D, and/or distribution facilities. Additionally, botanical cultivation efforts undertaken by the organization now total nearly 40,000 acres to ensure sustainable supplies of key products. All products intended for human consumption are certified Kosher and Halal.

**Industries Served**
Sabinsa’s mission is to be a responsible biotechnology-based research, manufacturing, and marketing company, supplying the finest raw materials to provide innovative solutions to the dietary supplement, cosmetic, specialty chemical, and pharmaceutical industries. Sabinsa’s specialized services include custom product development, technical support and testing lab facilities, assistance in clinical evaluation, and protocol implementation. Sabinsa has established offices in the United States, Australia, China, Europe, Japan, and South Africa. Sabinsa also has agents that represent its product line throughout South America and Far East Asia.

**Science and Technical Merit**
Emphasis on developing and bringing to market products with scientific and clinical substantiation is Sabinsa’s core business philosophy and is in large part responsible for fueling the company’s ongoing commercial success. With more than 100 scientists working full-time and conducting ongoing research both in India and the United States, Sabinsa continues to
develop and patent beneficial nutrients for the world market.

**Proprietary/Intellectual Property**
Sabinsa currently owns over 110 U.S. & international patents and has 100 pending patent applications worldwide. The company is also a three-time recipient of the prestigious Thomas Alva Edison Patent Award, given annually by the New Jersey R&D Council in recognition of the most revolutionary product innovations and important scientific breakthroughs originating in New Jersey. The company also has many recognized trademarked ingredients such as Bacopin®, BioPerine®, Boswellin®, Citrin®, Cosmoperine®, Curcumin C3 Complex®, Curcumin C3 Reduct®, DigeZyme®, Fabenol®, FenuFibers®, Fenusterols®, ForsLean®, Gugulipid®, Gymnema Sylvestre GS4®, LactoSpore®, Momordicin®, Picroliv®, Resvenox®, Saberry®, Salaretin®, Selenium Select®, Silbinol®, and Venocin®.

**Application Specialties**
Committed and dedicated to the principles of innovation, tradition, and research, Sabinsa supplies high-quality, innovative, and standardized herbal extracts, phytonutrients, probiotics, enzymes, spice extracts, minerals, specialty chemicals, and fine chemicals for applications in dietary supplements, functional foods, pharmaceuticals, and cosmetics. The natural extracts and phytonutrients are derived from botanicals with a long history of traditional food, medicinal, and cosmetic use. Every product is backed by application-oriented scientific research. Sabinsa Corp. has developed novel approaches to retaining the biological activity of these ingredients while simultaneously addressing formulation challenges and product safety criteria.
SaltWorks, Inc.
America’s Sea Salt Company®

**Corporate Headquarters**
SaltWorks, Inc.
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Toll-Free Number: 800/353-7258
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**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.
**Annual Supplier Profile**

**Soft Gel Technologies, Inc.**

Delivering custom and branded softgels, naturally.™

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**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 and NSF, including NSF’s Athletic Banned Substances program, known as GMP for Sport™.

**Services**

- Custom formulation and contract manufacturing
- Develop production technologies that maximize a formula’s effectiveness
- Accommodate small production runs
- Extensive marketing and educational support of branded products
- Part of a global network of companies with an international sales team

**Products**

- **Perluxan® softgels** contain a unique botanical anti-inflammatory agent derived from hops resin extract clinically demonstrated to relieve minor joint pain quickly. The formula is standardized to contain high concentrations of alpha acids, which reduce pain-causing compounds in a short time with a low dose. This specialized hops extract provides a safer approach to soothing aches from overexertion of everyday activities and effectively calms the body’s minor pain cascade.

- **Injuv® softgels** contain a low molecular weight, naturally-derived hyaluronic acid complex for skin and joint health with proven absorption and bioavailability. A proprietary enzyme-cleaving technique allows it to have a low molecular weight for the highest possible absorption. With its low molecular weight, Injuv is able to be absorbed by the intestinal tract, enter the bloodstream and move to its target sites. It is clinically shown to increase skin smoothness and firmness. Injuv helps skin and joints stay hydrated from the inside out.

- **CoQH-CF®** is a targeted and highly beneficial antioxidant solution providing a stabilized and protected form of Kaneka QH™ ubiquinol in a softgel using our crystal-free technology. Ubiquinol is an important nutrient that should be seriously considered for optimum health, longevity, and vitality. CoQH-CF® soft gels provide a highly efficient platform for delivering the reduced form of CoQ10 for maximum utilization. Supplementing with this form makes CoQ10 more readily available to those who need it most—the late middle-aged to elderly and individuals suffering from oxidative stress conditions.

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**Corporate Headquarters**

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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
  royb@soft-gel.com

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**NUTRITIONAL OUTLOOK • JULY/AUGUST 2016**
San Joaquin Valley Concentrates

Company Description
San Joaquin Valley Concentrates (SJVC) manufactures colors from natural sources, grape juice concentrates, and grape seed extract for the food, beverage, and nutraceutical industries.

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, purple carrot, and purple sweet potato. They are dried into a crystalline form without the use of carriers. Crystal colors are completely and easily soluble with much less dusting than spray dried colors. They have a shelf life of 5 years at ambient temperature.

SJVC 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.

Products
Crystal Colors
- Crystal Red Grape
- Crystal Purple Grape
- Crystal Purple Carrot
- Crystal Purple Sweet Potato
- Crystal Merlot Shade
- Crystal Zinfandel Shade
- Crystal Rosé Shade
- Crystal Tinto Shade (NEW!)

Liquid Colors
- Red 8,000
- Purple 8,000
- Purple Carrot
- Merlot Shade
- Zinfandel Shade
- Rosé Shade

ActiVin™ Grape Seed Extract
ActiVin™ Beverage Grade (NEW!)

Product Qualifications
- Kosher
- Halal
- Non-GMO
- Gluten Free

Major Markets
- Beverages
- Confections
- Nutraceuticals

Corporate Headquarters
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Website: www.sjvconc.com

Key Personnel
Thomas Lampe
Director of Business Development

Kai-Mei Loo
Quality Manager

Alice Conley
Customer Service Manager
RED COLORS FROM NATURAL SOURCES

COLOR STABILITY
HALAL
OU KOSHER

FAST SOLUBILITY
NON-GMO
CARRIER FREE

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WWW.SJVCONC.COM

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Stratum Nutrition
Empowering Product Innovation

Description
Stratum Nutrition is a specialty health-ingredient supplier offering a portfolio of branded ingredients developed in collaboration with global partnerships, based on consumer need, and supported by science. Stratum specializes in condition-specific categories, which include structural, digestive, and immune health, to offer full solutions for human, companion animal, and equine nutrition. Leveraging the Novus core competencies in nutritional research and innovation, these ingredients are progressive, safe, and reliable. Stratum’s ingredient portfolio includes: NEM® for joint health, ESC® for bone health, ACTAZIN™ for digestive health, BLIS K12® for ENT immune health, and BLIS M18® for dental health.

Bone & Joint Health
NEM® is a food-sourced ingredient containing hyaluronic acid, glycosaminoglycans, collagen, and other beneficial proteins that support joint health, and it is sustainably derived from the membrane of an eggshell. Clinical trials show that NEM helps maintain joint comfort and flexibility, including a healthy range of motion. These studies showed that subjects were already seeing beneficial results at 7 and 10 days with only 500 mg per day.¹

ESC® brand calcium from eggshells is a naturally pure calcium source compliant with FDA, USP, and California Proposition 65 limits for heavy metals at the full 1000-mg dose of elemental calcium per day.

Digestive Health
ACTAZIN™ is a whole-fruit supplement ingredient made of the nutritious New Zealand green kiwifruit. ACTAZIN uses four-way action to support digestive health and well being: prebiotics, fiber, polyphenols, and enzymes. As a whole-food fruit with prebiotic activity, ACTAZIN is a good combination for probiotic digestive formulas.

Immune & Oral Health
BLIS K12®, a proprietary strain of Streptococcus salivarius, is an advanced probiotic for oral cavity (mouth) and upper respiratory tract health while acting to maintain fresh breath. S. salivarius is one of the most plentiful bacterial strains found in the mouth of healthy individuals. However, only a small percent of people have naturally occurring S. salivarius with the ENT health-supporting attributes of BLIS K12®.

BLIS M18™, also developed from a S. salivarius strain, is an oral probiotic that can be used in conjunction with regular oral hygiene practices to establish a healthy balance of natural bacteria in the mouth, supporting healthy teeth and gums and thereby overall health.
Healthy Joints Start Here


As a safe, USA-domestic, food sourced choice – NEM® brand eggshell membrane stands alone. NEM has undergone extensive testing to ensure consistent quality and safety, and it is the only eggshell membrane ingredient shown to provide all-over benefits to joint tissue, supported by multiple published mode-of-action and clinical efficacy studies. A once daily dose of NEM improves joint comfort and flexibility within 7-10 days and helps protect joint cartilage. For the old and the young, the athlete and the couch potato – NEM provides the perfect answer for long term joint care.

Fast 7-10 day results* | One capsule daily dose
Multiple published human, in vivo and in vitro mode of action and efficacy studies

Text “NEMresearch” to 444999 to receive a listing of the published research conducted on NEM.

*These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.
Suzanne’s Specialties

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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.

Sweetness, The Way Mother Nature Intended™

- Brown Rice Syrup – Organic & Conventional
- Clarified Rice Syrup Organic & Conventional
- InfantSafe® Rice Syrup Organic & Conventional
- Rice Maltodextrin & Syrup Solids Organic & Conventional
- Tapioca Syrup – Organic
- Tapioca Maltodextrin – Organic
- Agave Syrup – Organic
- Invert Syrups Organic & Conventional
- Inulin – Organic
- Molasses – Organic
- Sugar – Conventional & Organic
- Barley Malt Syrup – Organic
- Honey – Organic & Conventional
- Coconut Sugar – Organic

Warehoused in NJ & CA

New Brunswick, NJ 08901
800-762-2135 • FAX 732-828-8563
www.suzannes-specialties.com

FARVE
Certified Kosher
by KOF-K

Non GMO Project
VERIFIED

Certified Organic by
The New Jersey
Department of Agriculture
Synergy Flavors
Inspiring Taste

Synergy Flavors is a leading international supplier of flavors, extracts, and essences for the global food and beverage industry. With more than 130 years of flavoring expertise, Synergy combines a long heritage of flavor development with proprietary extraction technology—blending art and science in creating an exceptional array of tastes.

Nature captured it. We created it.™
Synergy’s passion for flavor is exhibited by the state-of-the-art processing for our Synergy Pure™ product line. Our broad portfolio of botanical, herbal, vegetable, tea, coffee, and pure vanilla essences and extracts effectively maximizes the natural flavor impressions of horticultural products, delivering only the freshest, highest-impact tastes you’d expect from nature.

Sports Nutrition
Synergy is making advancements in the Sports Nutrition Market through research and collaboration with parent company Carbery, a leading innovator in the manufacture of whey protein. The collective knowledge and capabilities provide formulators with an unrivaled ability to develop nutrition bars, BCAAs, beverages, and powders that strike the perfect balance of exceptional taste and performance.

Global Expertise
With facilities in US, Europe, Asia, and South America, Synergy flavor experts are globally positioned to deliver market understanding and customer collaboration to develop flavor solutions for the Bakery, Beverage, Confection, Dairy, and Nutrition industries.
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. Our commitment is to employ 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 high-value pricing from raw materials to bulk packed product. Exercising control over all aspects of production enables us to take a concept or formulation and deliver a market-ready, finished product that is regulatory compliant and quality tested to assist our partners in meeting their goals of quality, profitability, and success.
- Capabilities 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:
  - Proprietary and custom ingredient manufacturing under partnership
  - Premium botanical and natural product extraction
  - Granulation, chilsonation and custom blending for drum-to-hopper premixes
  - Finished-dosage manufacturing of tablets, two-piece capsules, stick packs, liquids, and creams
- TSI also employs an international R&D team to create cutting-edge, innovative solutions for the nutraceutical industry. Our innovation ingredients have applications ranging from sports nutrition to cardiovascular health to bone & joint health.
- TSI owns and operates manufacturing facilities and is dedicated to maintaining complete control over ingredient and finished dosage production. Every batch of ingredients we provide is subject to rigorous quality control tests in TSI operated, state-of-the-art laboratories and testing facilities.
- International cGMP-certified production
- Reliable customer service and support provided by TSI-operated sales offices in the United States, Australia, China, Europe, and Japan

**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
- PUREFLEX® Chondroitin Sulfate
- Ostivone® Ipriflavone
- GlucosaGreen™ Vegan Glucosamine
- Shellfish Glucosamine

**Botanicals:**
- Ginkgo 24/6/5™
- Opteava™ Green Tea Extract
- RisperinCTM
MORE
REPS.
MORE
SETS.

TRAIN STRONGER™
Fuel the success of your next formulation with PEAK ATP®. PEAK ATP® is a revolutionary pre-workout ingredient that has been proven to increase strength and power, aid recovery and reduce muscle fatigue, allowing athletes and active consumers to train harder and finish stronger. Learn more at PEAKATP.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.
Verdure Sciences


Description
Verdure Sciences® is a supplier of plant based ingredients with an emphasis on intrinsic synergies and clinically backed, tangible health applications. Through the integration of agricultural, production, and research platforms; Verdure brings modern innovation to an arena rich in historical tradition. Our emphasis is on developing ingredient solutions founded in rigorous scientific validation and traceable initiatives through collaborative efforts and an extensive research network. Our commitment to quality control and our global procurement network allows us to offer new and traditional ingredients with traceability and scientific validation.

Services
Dedication to our customer needs is second to none. We proudly serve and supply customers all over the globe with botanical ingredients; offering product support through innovative marketing and educational efforts. Further, our quality assurance and clinical research are supported through our corporate Verdure Botanical Active Testing System, VBATS™. VBATS is an advanced analytical program that aims to understand the underlying chemistry and activity of botanical extracts, while validating and expanding on our current knowledge of standardized botanical extracts and their activity using modern scientific techniques.

Products
Patented, proprietary, and/or clinically backed botanical ingredients:

- **Longvida® Optimized Curcumin** – *Curcuma longa* Extract Optimized to Deliver Bioefficacious Levels of Free, Unglucuroniated Curcumin
- **Pomella®** – *Punica granatum* Extract Standardized to Punicalagins
- **Bacognize®** – *Bacopa monnieri* Extract
- **WokVel®** – Bioavailable *Boswellia serrata* Extract
- **Thymocid™ Black Cumin Seed Oil** – *Nigella sativa* Extract
- **Tinofend®** – *Tinospora cordifolia* Extract
- **Factor 21™** – *Momordica charantia* Extract
- **Calzbone®** – *Cissus quadrangularis* Extract
- **Lutevida™** – Longvida® and Optimized Lutein SLP™
- **Cinnagest™** – *Cinnamomum zeylanicum* Extract
- **Gingerize™** – *Zingiber officinale* Extract
ENVISION AN INGREDIENT COMPANY WITH MORE.


Verdure Sciences® is a supplier of botanical extracts through the integration of agricultural, production, and research platforms with an emphasis on developing scientifically backed botanical ingredients. Verdure continually strives to exceed industry and global standards with the pursuit of new initiatives and technology to offer new botanical solutions. Dedication to our customers is second to none!

Take a closer look: www.vs-corp.com

Longvida® Enhanced with Lutein
Vesta Pharmaceuticals, Inc.
Committed to Innovative Products at Competitve Prices™

QUALITY AND RELIABILITY
As a leader in the nutraceutical industry since 1996, Vesta prides itself as a premier cGMP 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 for quality assurance and control. We fortify 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 package of nutritional products. In addition, Vesta’s capabilities include custom and stock formulations that satisfy the most discerning tastes. Our nutritional formulations, 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, Vitamin K2, Nattokinase, and Hyaluronic Acid to name a few.

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.
Viatal, a ZMC Company

Caring for the Health of All Mankind

Description

Viatal is the U.S. subsidiary of parent company Zhejiang Medicine Company–Xinchang Pharmaceutical. ZMC is the worldwide leader in the development and manufacture of active pharmaceutical and nutritional ingredients, including Coenzyme Q10, Vitamins A and E, Beta Carotene, Lutein, Biotin, Zeaxanthin, Lycopene, and Astaxanthin. ZMC’s production facilities are FDA inspected, USP Ingredient Verified, Kosher, Halal, ISO14001, cGMP, PAS220, ISO22000, SA8000, and OSHA certified.

Our goal is to foster a culture of discovery in all of our activities and to continue to strengthen our relationships with universities, hospitals, agencies, and our community. Through the expertise of each individual employee, we are uniquely positioned to provide best-in-class ingredients to a global customer base.

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Key Personnel
John Tang,
CEO
Nathan Li,
President
Elaine Li,
Vice President
Description

For more than a decade, Vidya Herbs Pvt. Ltd. has served the nutrition, supplements, nutraceuticals, and cosmetics industries as a world-leading manufacturer of plant extracts, essential oils, and oleoresins.

The natural ingredients market is expanding quickly. Vidya is able to meet growing demand and provide customers with quality and insights on trends and research.

The company now operates three manufacturing facilities, including a supercritical CO₂ extraction facility and a state-of-the-art research laboratory.

With its recent acquisition of a large manufacturer of flavors and spice extracts in India, Vidya Herbs has further increased its own manufacturing capabilities and product range. For example, Vidya Herbs is now able to manufacture and supply approximately 70 tons of turmeric material per year.

Vidya Herbs offers a wide range of products, including for anti-inflammatory, weight management, brain health, natural energy, or other health concerns. The company’s broad portfolio makes it easy for customers worldwide to find quality material for all of their needs.

Top Products:

- Turmeric
- Coleus
- Bilberry (by HPLC)
- Holy Basil
- Ashwagandha
- Mucuna
- Bacopa
Virginia Dare
Delivering preferred taste

Description
For more than 90 years, Virginia Dare has worked with our partners to build products delivering preferred taste. As a global provider, we offer services from our headquarters in Brooklyn as well as a facility in Shanghai. Combining formulation expertise with substantial knowledge in sourcing and producing natural ingredients, we bring together science, market insights, and sourcing to create business advantages for our partners. Our key product lines include:

- Taste Foundations™: simple, premium extracts and flavors in the foundational areas of vanilla, tea, coffee, and cocoa
- Taste Collaborations™: flavor systems designed to deliver preferred taste by eliminating off notes and increasing sensory quality, as well as flavors from the classic to the creative

Virginia Dare’s combination of superior flavor platforms with focused industry expertise makes us the leading partner for attaining preferred taste with strategic business value.
Vit-Best Nutrition
(V-eye-t Best)

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E-mail: info@vit-best.com

Key Personnel
Gale Bensussen, CEO
John Altenberg, Vice President of Sales
David Jaing, PhD, Director of Technical Services

Contract Manufacturing Solutions for the Natural Products Industry

Vit-Best Nutrition (formerly Vitatech Nutrition Sciences, Inc.) provides full-service solutions for contract manufacturing clients.

Our product portfolio includes powders, capsules and tablets – with significant blending capacity. Our services include ingredient sourcing, formulation, product development and enhancement, and custom packaging solutions.

Our quality assurance program ensures continual monitoring of the manufacturing and packaging process and is supported by an in-house laboratory that provides comprehensive testing capabilities.

60 plus years of manufacturing history gives us the insight to answer today’s challenges – from surge demand to new product development.

POWDERs | CAPSULES | TABLETS

Visit Us at SupplySide West
Mandalay Bay, Las Vegas USA
October 4 - 6
Booth T115

cGMP Compliant

Custom Contract Manufacturing

60 Years of Exceeding Expectations
FORMERLY VITATECH NUTRITIONAL SCIENCES, INC.

www.vit-best.com

2802 Dow Ave. Tustin, CA 92780 • 714-832-9700
THE INDUSTRY’S GATHERING POINT WHERE SCIENCE & STRATEGY INTERSECT

Every year SupplySide West brings over 14,000 ingredient buyers and suppliers together from the dietary supplement, beverage, functional food, personal care and sports nutrition industries.

Our 2016 tradeshow offers 100+ hours of education to expand your scientific expertise and product formulation strategies.

Make plans now to exchange new ideas and network with top CPG decision makers across the globe.

Registration Now Open
supplysideshow.com

OCTOBER 4-8
Expo Hall October 6 & 7
2016

MANDALAY BAY
RESORT AND CASINO, LAS VEGAS
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, microencapsulations, 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 50 years we have been taking our customer's products from good to great. Providing value-added, innovative and BALANCED SOLUTIONS™ that drive profitability are our focus and our commitment to service and quality is unmatched in our industry. Connect with us to find out more about how our history of innovation and strategic solutions can help bring out the best in your product line.

- SuperBlend® custom nutrient premixes
- SuperCoat® microencapsulated nutrients
- SuperTab® direct compressible granulations
- enrichments • vitamins • minerals • omega-3

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Description
The Marine Stewardship Council is an international non-profit organization that safeguards seafood supplies for the future. We use our blue MSC label and fishery certification program to transform the seafood market by recognizing and rewarding sustainable fishing practices and influencing the choices people make when buying seafood.

Generex Labs provides premium nutraceutical formulations with superior manufacturing. Generex utilizes proven delivery systems that adhere to safe and credible manufacturing practices with a commitment to exceeding customers’ expectations with the best pricing.

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* 2016 MSC Consumer Perceptions Survey of 1600 U.S. Seafood Consumers
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Tongkat Ali Extract May Promote Immune Health in Middle-Aged Adults


Tongkat ali (*Eurycoma longifolia*) may be known for its testosterone-boosting potential, but results of a new clinical trial suggest a standardized tongkat ali extract may also support immune health in middle-aged adults.

Researchers found that LJ100 tongkat ali root water extract from HP Ingredients (Bradenton, FL) may improve "comprehensive immunity" and raise the numbers of total, naïve, and CD4+ T cells in both Japanese men and women aged 40–59. The study authors also noted this is the first time such an immune effect has been observed after supplementation with tongkat ali.

For four weeks, 81 subjects were randomized to consume either 200 mg per day of LJ100 or a placebo, with immune parameters assessed at the start and finish of the four-week experimental period. The 81 participants were selected from a larger group of 126 subjects because they posted lower baseline scores on the Scoring of Immunological Vigor (SIV) assessment, an immune evaluation method designed to describe "comprehensive immunity," rather than interpreting each immune function separately, according to the study authors.

At week four, researchers found that SIV and immunological grades were significantly higher in the LJ100 group than in the placebo group, with particular increases found in total, naïve, and CD4+ T cells. This may indicate improved adaptive, or cell-mediated, immunity, researchers explained.

Additionally, the immunological age of the LJ100 group was found to be four years younger than the placebo group at the end of the experimental period. The LJ100 group also had significantly higher numbers of lymphocytes.

“Our findings indicate for the first time the immune-related improvements following the ingestion of the propriety water extract of tongkat ali,” researchers concluded.

EPA versus DHA Omega-3s for Inflammation: New Study Results

Allaire J et al., “Randomized, crossover, head-to-head comparison of EPA and DHA supplementation to reduce inflammation markers in men and women: the comparing EPA to DHA study,” *The American Journal of Clinical Nutrition*. Published online June 8, 2016

With so much of the global omega-3 market built upon the success of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), it can be easy to lump the two fatty acids together. But it’s important not to overlook key differences between the two, such as new study results suggesting fish oil-derived DHA may be more effective than EPA at modulating blood lipids and specific markers of inflammation.

Writing in *The American Journal of Clinical Nutrition*, researchers in Canada conducted a double-blind, randomized, crossover, controlled study on 154 healthy adults with abdominal obesity and low-grade systemic inflammation. For periods of 10 weeks, participants were randomized to consume either 2.7 g per day of fish oil EPA, fish oil DHA, or a corn oil placebo, each in 3-g tablets. The supplementation periods were separated by nine-week washout periods.

By assessing blood markers, researchers found that DHA was more effective than EPA at attenuating systemic inflammation, as evidenced by a greater reduction in interleukin-18 and a greater increase in adiponectin. There was not a significant difference found between DHA and EPA for other inflammation factors like interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF-alpha), and C-reactive protein.

In terms of blood lipids, supplementation with DHA compared to EPA led to more pronounced reductions in triglycerides and the ratio of total cholesterol to HDL cholesterol. DHA was also found to be more effective than EPA at increasing HDL cholesterol. However, DHA also led to greater increases in LDL cholesterol than EPA, possibly due to changes in LDL particle size. But more research into DHA’s effect on LDL cholesterol is required, researchers noted.

“Data from this carefully controlled [randomized controlled trial] indicate that DHA supplementation at a dose of ~3 g per day for 10 weeks may be more potent in modulating inflammation markers than would be a similar dose of EPA in men and women with abdominal obesity and subclinical systemic inflammation but who are otherwise healthy,” the study authors concluded.

To the researchers’ knowledge, this is the first study to offer a head-to-head comparison of EPA and DHA with inflammation markers as a primary outcome in both men and women.

The study included 48 men (mean age 57 +/- 12) and 106 women (mean age 50 +/- 16). Douglas Laboratories (Pittsburgh) provided the fish oil supplements used in this study.

Cranberry Plus Probiotics Defends against *E. Coli* in Preclinical Study


...
New in vitro study results suggest cranberry proanthocyanidins (PACs) combined with certain probiotic strains may inhibit invasion of pathogenic Escherichia coli bacteria, a common cause of urinary tract infections (UTIs).

A plethora of past studies have suggested cranberry PACs may inhibit UTIs by disrupting the adherence of E. coli to epithelial cells in the urinary tract, while other research has indicated certain probiotics may inhibit E. coli growth and/or support healthy vaginal bacteria, including some Lactobacillus and Bifidobacterium strains. But researchers were curious to learn whether cranberry PACs and probiotics could be effectively used in combination against E. coli invasion without one hindering the effect of the other.

Writing in the Journal of Functional Foods, researchers reported that the presence of probiotics did not inhibit the ability of cranberry PACs to significantly reduce E. coli invasion at concentrations greater than 36 μg c-PAC/ml. What’s more, a probiotic blend of L. acidophilus, L. gasseri, L. plantarum, L. rhamnosus, and B. animalis subsp. lactis without PACs was also found to disrupt E. coli invasion.

Although they noted that further in vivo and in vitro research is necessary, researchers concluded that a combination of cranberry PACs and certain probiotic strains may offer benefits in inhibiting E. coli invasion.

“Our study helps to not only confirm the health benefits of cranberry consumption and offer additional insight into mechanisms of action of cranberry PACs against E. coli responsible for infection, but also demonstrates the additional benefits of consuming probiotics alone or in combination with cranberry,” said Christian G. Krueger, study author and CEO of Complete Phytochemical Solutions (Cambridge, WI).

The PACs used in the study were sourced from Cran Naturelle cranberry from Fruit d’Or Nutraceuticals (Notre-Dame-de-Lourdes, QC, Canada), while UAS Laboratories (Eden Prairie, MN) provided the different probiotic strains that were included.

These in vitro results are a precursor to a coming human clinical study, which Fruit d’Or hopes to begin by the end of 2016.

Fish Oil Omega-3s Enhance Joint Range of Motion, Study Suggests


Researchers in Japan have published new study findings suggesting omega-3s derived from fish oil may offer joint- and muscle-recovery benefits to men after exercise. Following maximal eccentric elbow flexion exercises, men supplementing with EPA and DHA omega-3s experienced significant increases in maximal voluntary contraction (MVC) and range of motion (ROM) compared to a placebo group.

The randomized, double-blind, placebo-controlled study included 24 healthy men with a mean age of 19.5 who consumed either fish oil supplements or a placebo for eight weeks prior to the exercise. The fish oil administration consisted of 600 mg EPA and 260 mg DHA per day in softgel capsule form, which were provided by Nippon Suisan Kaisha Ltd. (Tokyo, Japan). After the initial eight weeks of supplementation, participants performed five sets of six maximal eccentric elbow flexion exercises, followed by another five days of supplementation.

Researchers assessed changes in MVC torque, ROM, upper arm circumference, and muscle soreness, as well as serum creatine kinase, IL-6, myoglobin, and TNF-alpha of participants before the exercise, immediately following the exercise, and 1, 2, 3, and 5 days after exercise.

At 2–5 days after exercise, MVC was found to be significantly higher in the omega-3 group than the placebo group, and at 1–5 days after exercise, ROM was also significantly higher in the omega-3 group than the placebo group. Muscle soreness of the brachialis was also found to be significantly greater in the placebo group than the EPA group at 3 days after exercise only, suggesting EPA and DHA attenuated muscle soreness.

Certain Dietary Supplements May Enhance the Effect of Antidepressant Drugs


Researchers at Harvard University (Cambridge, MA) and the University of Melbourne (Australia) have found that several popular dietary supplement ingredients, including EPA omega-3s, vitamin D, methylfolate, and S-adenosylmethionine (SAMe), may reduce symptoms of depression when used in combination with antidepressant drugs.

The newly published systematic review includes the results of 40 clinical trials of patients with clinical depression who were treated with nutraceuticals in addition to antidepressant drugs.

Aside from the aforementioned positive results of omega-3s, vitamin D, SAMe, and methylfolate, researchers also found positive isolated studies for creatine, folic acid, and an amino acid combination at reducing depression symptoms in pairings with antidepressants. Zinc, folic acid, vitamin C, and tryptophan, on the other hand, showed mixed results when it came to addressing symptoms of depression.

Notably, omega-3 ingredients appeared to be especially effective at reducing depressive symptoms, as a meta-analysis comparing adjunctive omega-3 versus placebo “revealed a significant and moderate to strong effect in favor of omega-3.”

Researchers concluded: “Current evidence supports adjunctive use of SAMe, methylfolate, omega-3, and vitamin D with antidepressants to reduce depressive symptoms.”

The supplement ingredients found to be successful at reducing depression symptoms when combined with antidepressant medication are also known to have some antidepressant effects on their own, noted the Council for Responsible Nutrition (CRN; Washington, DC), which shared the study results.
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Try as they might to prepare for it, suppliers in just about every segment of the ingredients market face supply shortages from time to time. Flavor firms, in particular, have added challenges to deal with. On top of potential price increases, the distinct taste profile of many flavor ingredients can make reformulating especially challenging during a shortage, explains Richard Brownell, vice president of vanilla products for Virginia Dare (Brooklyn, NY).

“Flavors are complex combinations of many individual components that provide a unique sensory profile in foods, beverages, and pharmaceuticals,” says Brownell. “The difficulty of making substitutions when ingredient shortages occur is especially true of natural ingredients, which often differ from one origin or supplier to the next.”

At the moment, vanilla may be the most famous flavor in limited supply. Bad harvests in Madagascar, the world’s top producer of vanilla beans, sent vanilla prices skyrocketing from $20/kg five years ago to more than $200/kg today. But it’s not the only case. Political turmoil in Syria has disrupted sourcing of Aleppo pepper, and unfavorable weather in Southeast Asia has led to failed coconut and pineapple crops.

The good news is flavor firms have developed a host of strategies to anticipate and address these kinds of shortages.

**Always Be Prepared**

As with any investment strategy, diversification is often the best defense. It’s important to avoid relying on a single source of an ingredient whenever possible, advises Synergy Flavors (Wauconda, IL).

“This puts us in a strong position to ensure we have varied sources of supply—even if there is a failed pineapple crop in Thailand—because we also maintain good relations for pineapple options in Costa Rica,” explains Tim Yoho, director of quality, regulatory, and procurement for Synergy. He adds that Synergy’s multi-source strategy has allowed it to keep both coconut and pineapple ingredients in sufficient stock to meet customer needs.

But even with a diverse geographic portfolio, dramatic ingredient shortages in one locale can have an outsized effect on the entire global market, as is the case with vanilla. That’s why it’s also crucial to keep an eye on conditions that could lead to a shortage and plan accordingly. Virginia Dare, for example, began stockpiling extra vanilla beans several years ago in anticipation of the coming vanilla shortage, says Brownell. But sometimes that proactive strategy can only last so long.

“This cycle is now five years old, and we have felt the impact of higher bean prices as we have replenished our bean inventories,” says Brownell. Unfortunately, it could be two or more years from now before the vanilla supply can fully recover.

**Weathering the Storm**

Once a shortage is here, there are still plenty of ways to mitigate its impact. As vanilla problems persist, Virginia Dare has helped its customers reformulate with lower-cost vanilla beans sourced from countries besides Madagascar, Brownell says.

Other firms, such as Sensient Flavors (Hoffman Estates, IL), stretch the limited vanilla supply further by focusing on optimal extraction techniques.

“We leverage our various extraction technologies to distill the maximum amount of flavor from our raw ingredients and drive down costs,” says Joe Gadomski, purchasing manager for Sensient’s flavor group division.

Sometimes, though, reformulation makes more financial sense if ingredient prices go too high. Since the vanilla shortage began, Gold Coast Ingredients (Commerce, CA) has increased inventory and sales of alternative vanilla flavors, which can be used as hybrid or full replacements for vanilla extract. While this may pose a problem for companies looking to claim vanilla extract on their labels, vanilla alternatives can offer more consistent taste and price, explains Megan Trent, marketing coordinator for Gold Coast Ingredients.

“It really depends on what the customer is looking for, and we provide options for every customer’s needs,” Trent says.
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