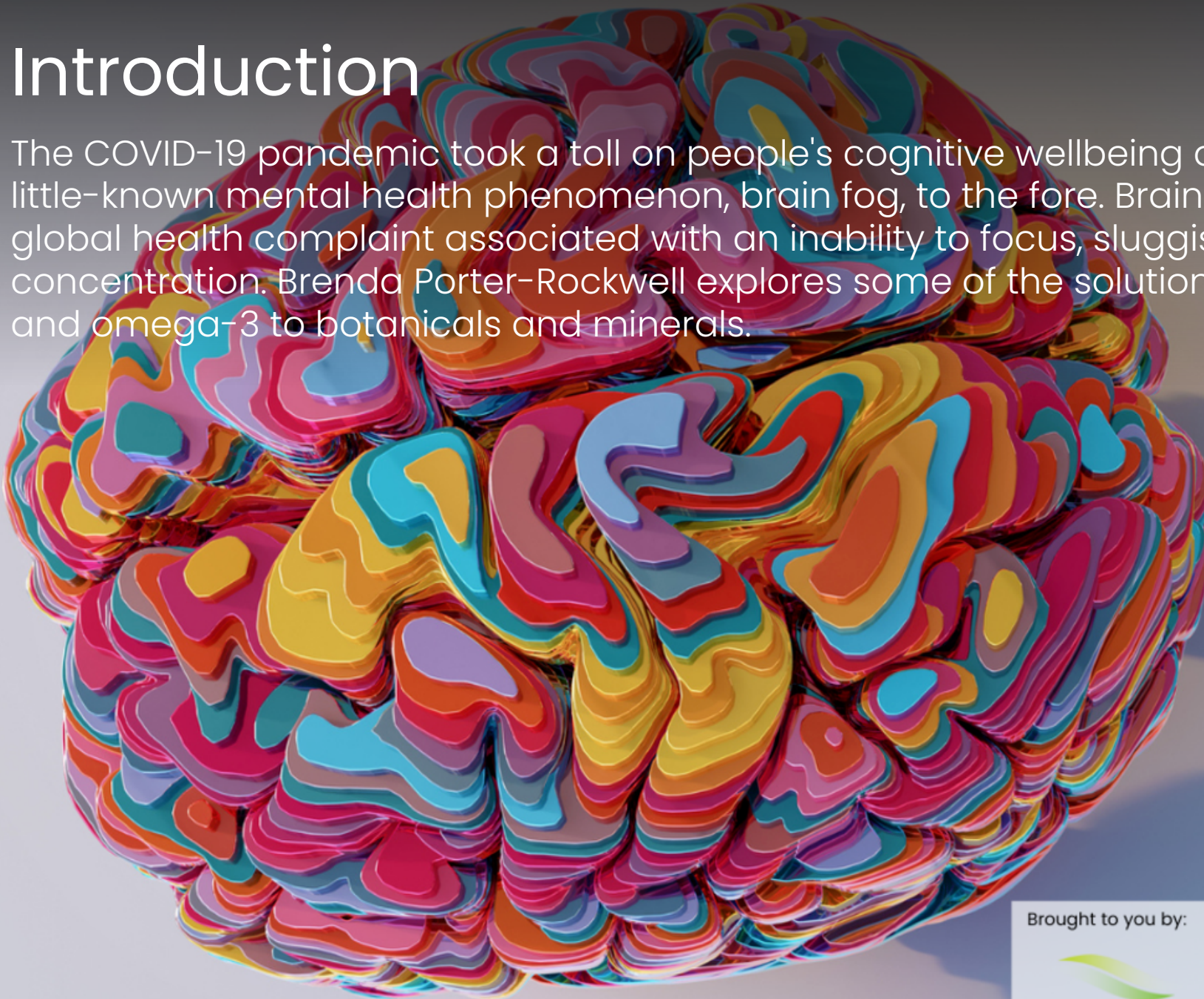




The new frontier of  
cognitive health

# Introduction

The COVID-19 pandemic took a toll on people's cognitive wellbeing and has brought a little-known mental health phenomenon, brain fog, to the fore. Brain fog is a growing global health complaint associated with an inability to focus, sluggishness and a lack of concentration. Brenda Porter-Rockwell explores some of the solutions, from nootropics and omega-3 to botanicals and minerals.



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hen COVID-19 forced people around the world to remain

inside, meetings and social gatherings began to take place over video, blurring the work-life balance. As a result, mental performance took on new meaning as the global spent more time with digital devices.

Looking back, health experts are starting to realize that being always “switched on” appears to have taken its toll on people’s brains. Multiple studies show that consumers have been experiencing a serious mental health phenomenon: “brain fog”. Also called “digital dementia”,<sup>1</sup> these two terms categorically describe an inability to focus, sluggishness and a lack of concentration. Tied to this is a lack of sleep due to outside stressors.

According to industry experts, there is hope for, and interest in, improving cognitive function among consumers. A Grand View Research report on brain health supplements valued the market size at \$7.68 billion in 2021, with an anticipated compound annual growth rate (CAGR) of 8.3% between 2022 to 2030.<sup>2</sup>

Along with small lifestyle changes, the ingredient options

across the brain health space are vast, offering many opportunities for ongoing cognitive wellness support. From omega-3s and ginkgo biloba to adaptogens and minerals, a plethora of natural options exist to help clear away the fog.

“It’s not your imagination that our digital communications, like Zoom, seem more taxing,” said Jennifer Cooper, president of



“

Zoom fatigue is a real thing

Jennifer Cooper, President,  
Alternative Laboratories

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Alternative Laboratories. “Zoom fatigue is a real thing.”

Gencor Pacific’s marketing director, Maggie McNamara, agrees with Cooper, adding that being hyper-focused on phones, tablets and computers has contributed to a mental overload.

“We spent more time inside due to lockdown orders, which led us to going more ‘digital,’” says McNamara. “Instead of going outside for a walk, going to the store, etc. we had our brains ‘connected’ for longer periods



of time. This definitely contributes to ‘brain fog’.”

Ordinarily, healthy brain function requires receiving, storing and recalling information. It’s when there are disruptions in any of these stages, says Dilip Ghosh, PhD, FACN, director of Sydney-based Nutriconnect, that people have trouble processing and recalling information. The brain starts to short-circuit, making way for “brain fog” or “brain fade”.

In other words, it appears that too much screen time is interrupting normal cellular activities such as cardiovascular blood flow, glucose levels, oxygen uptake, antioxidant status, cholinergic function, mitochondrial function, neurotransmitters (ACH, 5-HT, DA and NMDA), and inflammation that influence our cognitive and memory status.

Nootropics expert David Tomen has conducted research into

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The ongoing brain fog symptoms should be taken seriously

David Tomen, Founder,  
Nootropic Expert

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the issue of brain fog and found six other bodily functions that impact cognitive health: oxidative stress,<sup>4</sup> inflammation,<sup>5</sup> hormone imbalances,<sup>6</sup> nutrient deficiencies,<sup>7</sup> lack of quality sleep<sup>8</sup> and low brain-derived neurotrophic factor (BDNF).<sup>9</sup>

“The ongoing brain fog symptoms should be taken seriously,” says Tomen.

A key sign of a negative change in cognitive behavior is frequent bouts of forgetfulness. After recognition of such cognitive

decline, only then can the individual seek out the “tools” the brain needs to repair itself, says Tomen. “Starting early to examine the root of the cognitive symptom can help to ensure an effective course of action can be taken,” he says.

Tomen is among a growing population of wellness experts putting added focus on mental health, giving consumers greater access to resources to help alleviate brain fog.

Supplementation will play a key role in optimizing cognitive performance. But it’s not the only “tool” or resource available to consumers. Healthy eating, regular exercise, adequate sleep and stress reduction techniques will help boost the effects of any pill, bar, drink or powder consumers may take.



# Cognitive Health using Adaptogens that are clinically researched and efficacious

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[www.gencorpacific.com](http://www.gencorpacific.com)





Supplements that  
promote sleep &  
mental wellbeing

**T**he COVID-19 pandemic has also disrupted sleeping patterns for many people around the world. Nektium's marketing manager, Deborah Thoma, says: "...[It] triggered a general imbalance in the body, contributing to the rise of sleep disorders. This

physical and cognitive stress led to mental fatigue."

Agreeing, Motion Nutrition's co-founder and CEO, Joe Welstead, adds: "Sleep is the number one performance enhancer — both physically and mentally. It also happens to be

entirely free and at the disposal of all of us!"

When sleep doesn't come naturally, Welstead suggests supplements created with ingredient combinations that support — not replace — natural melatonin production. The goal, he says, is to "slow-fix your sleep and support long-term sleep hygiene".

According to Welstead, "By providing your brain with the nutrients it needs to produce its own sleep and relaxation hormones, you allow it to create a healthy neurosynthesis pathway — the way things should be if we lived a less stressed, less wired lifestyle."

It's 'big picture thinking' over a narrower focus on a single ingredient, he says. After all, our



### Addressing mental wellness and the long effects of COVID

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bodies are complex, so we need a multi-faceted approach to nourishing it, he claims.

His go-to recommendation includes a combination of zinc for maintaining neuroplasticity; iodine to support brain tissue development for all ages; bacopa monnieri, which has been researched for its association with brain health longevity; and ashwaganda and rhodiola for reducing the immunosuppressive effect of stress.



Nutraceuticals and mindfulness: Combating cognitive impairment from poor mental health

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A photograph of a vast lavender field with rows of purple plants stretching towards a bright sunset on the horizon. The sun is low, creating a warm orange glow across the sky and casting long shadows across the rows of lavender.

Lavender oil & green  
tea extract for stress

**T**he global pandemic was a source of stress for many, points out Trevor Wagner, global health category manager for IFF Health. According to Wagner, nearly 67% of US adults claimed increased stress throughout the COVID-19 pandemic, of which 78% say the pandemic was a significant source of stress in their lives.<sup>10</sup> Additionally, the

increased use of smart phones and screens has been linked to rising reports of stress, anxiety and depression.<sup>11</sup>

Stress, or General Anxiety Disorder (GAD), is now more prevalent in many countries, notes Pharmako Biotechnologies' commercial director, Eric Meppem. In the US alone, the Anxiety and

Depression Association of America (ADAA) says there are 6.8 million people affected by GAD annually.

"Rising awareness towards anxiety disorder and developments in mental health-care services are responsible for the increase in the diagnosis of GAD in many regions," Meppem explains.

An underutilized approach to managing stress is aromatherapy. Now gaining significant traction in the dietary supplements and over-the-counter (OTC) industries, the use of lavender oil to effectively manage stress and anxiety and improve sleep has been the subject of almost 30 clinical studies conducted in Europe. Pharmako offers a powdered lavender oil, which makes

formulating easier for manufacturers.

During bouts of chronic stress, the body enters fight-or-flight mode, according to myAir co-founder and CEO Rachel Yarcony. Research suggests this can overstimulate the brain and cause the individual to have difficulty focusing, creating short-term memories.<sup>12</sup> For de-stressing, she advocates a personalized nutrition and stress management regime like functional food bars that contain green tea extract as well as other active plant extracts.

According to Yarcony, research on adaptogens like green tea extract has shown enhanced functionality of the prefrontal cortex, which plays a key role in memory processing.<sup>13</sup>





Leveraging  
adaptogens for  
cognitive wellness

**P**rofessor Andrew Scholey, an academic and consultant based in the UK and Australia, also supports the power of adaptogens, stating, “the traditional adaptogens definitely have a place here”.

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The traditional adaptogens definitely have a place here

Professor Andrew Scholey

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Cognitive health: From brain health to mental wellness — video

Nektium’s Thoma points to the adaptogenic herb *Rhodiola rosea*, which has been shown in clinical trials to trigger a brain-enhancing reaction with a rapid onset of activity – with the beneficial effects lasting for at least five hours.<sup>14</sup> Another study indicated its positive effect on long-term potentiation due to the electrical stimulation of brain pyramidal cells, suggesting improvement in

memory and learning.<sup>15</sup>

NutriConnect’s Ghosh says *Bacopa monnieri* (Brahmi) is one of several nootropic and adaptogenic herbs shown to have a significant positive effect on improved memory, recall and learning through multiple randomly controlled trials.

“Bacopa has multiple mechanisms which control

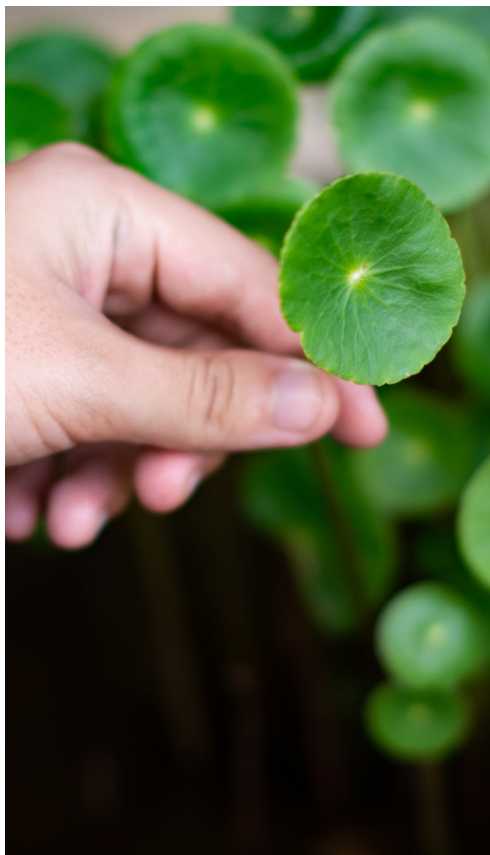
many such [brain] disorders,” Ghosh says.

Ghosh has also studied adaptogenic and nootropic ingredients such as New Zealand blackcurrant standardised extract containing high cGP (cyclic glycine proline), which showed a demonstrable increase of brain function by increasing IGF-1 function.



Nootropics to tackle  
the six causes of  
brain fog

**L**ike Welstead, Tomen says, “There is no ‘one-pill solution’ to conquering brain fog. Once you are familiar with each of the six primary causes of brain fog you can plan your supplement strategy.”



## “There is no ‘one-pill solution’ to conquering brain fog

David Tomen



If the specific cause of the brain fog is unknown, Tomen says, consumers can select nootropic supplements that address and alleviate each of the six causes of brain fog.

For example, vitamin C and gotu kola are free radical scavengers which relieves oxidative stress.<sup>16,17</sup> Myo-inositol has been shown to lower C-reactive protein levels implicated in inflammation.<sup>18</sup>

Supplementing with iodine can help support thyroid hormone and relieve brain fog. Using a

daily high-quality, bioactive multivitamin can help restore nutrient deficiencies.<sup>19</sup>

Combining magnesium chelate, L-tryptophan and PharmaGABA can support a good night's sleep and with less brain fog the next day.<sup>20</sup> And using enough DHA (omega-3) and *Rhodiola rosea* extract daily will help restore serum brain-derived neurotrophic factor (BDNF) levels.<sup>21, 22</sup>

According to a study published in the journal *Antioxidants*, the combination of curcumin and iron is also proven to increase BDNF. The clinical trial, administered by the University of Westminster and Coventry University, found individuals who were given curcumin and a ferrous sulphate supplement (low-dose iron) experienced a



significant increase in BDNF. The results have been described as an important neurotrophic factor contributing to learning and memory.<sup>23</sup>

“Everyone experiences stress in different ways. For instance, it could manifest as difficulty falling asleep, irritability, anxiety or lack of focus. So, the ways we combat stress should be

tailored to our own individual stress effects,” Yarcony argues.

Yarcony argues that solutions for stress management and improving cognitive health should be person-based.

Measuring, managing and relieving stress should be rooted in science and combined with collected, individualized data to create the most effective results for stress resilience, says Yarcony.

Using data — like the physiological information obtained from a smartwatch — personalized nutritional profiles can be developed to help create tailored routines to monitor, manage and relieve

the effects of cognitive disruptions like brain fog, Yarcony contends. Eventually, that data can lead directly to addressing root causes and offer tailored tools to create stress resilience, she says.



Good mood food: Which ingredients are best for improving mood?

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# The gut microbiota and the brain



**T**he body itself acts like a computer, with multiple studies pinpointing bi-directional communication between the gut microbiota and the brain.<sup>24</sup>

Wagner points out that while stress is a normal bodily

response, prolonged stress events can lead to persistent activation of the stress response system in the gut.

Stress hormones, such as cortisol, can alter microbiota makeup over time, leading to negative impacts on physical and cognitive health.

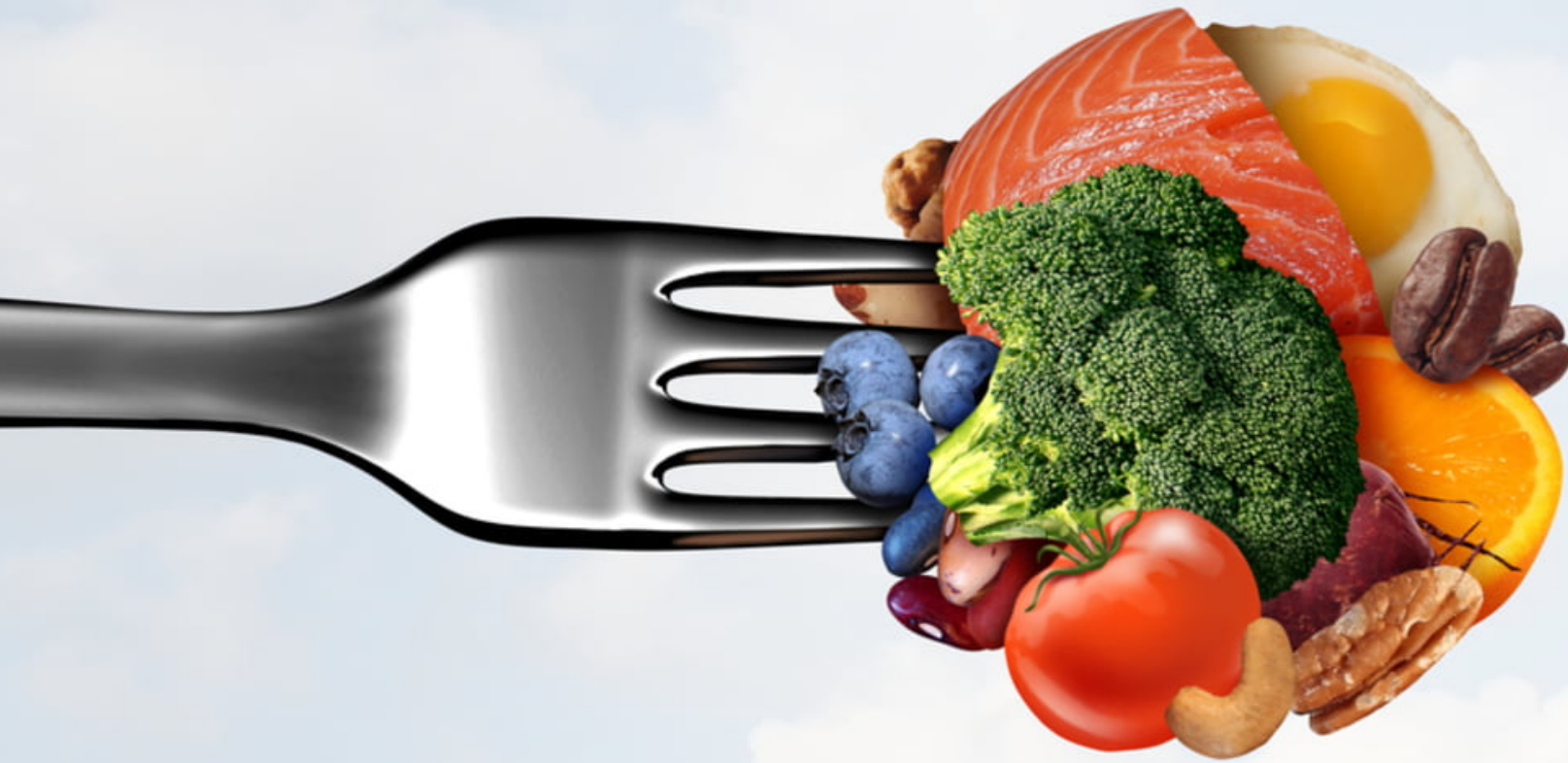
However, pre-clinical research into orally ingested probiotics have been shown to reach the gut, boost populations of healthy bacteria, and improve physical and cognitive health.



Improving consumers' mood with dietary supplementation



Understanding the development characteristics of GABA, probiotic enriched functional chocolate to reduce consumers' anxiety levels.



The 'whole food'  
approach to  
cognitive health

**T**he old saying ‘you are what you eat’ has strong meaning in the brain health category. A healthy and well-functioning brain needs to be nourished. Gencor’s McNamara points to the consumption of “brain-healthy”



Vitamin groups B6, B9 and B12 may improve cognitive performance in older adults

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foods such as walnuts, extra dark chocolate, berries, fatty fish, avocados, almonds and oranges as a great start for improving cognitive functions.

“Pick healthy options and avoid caffeine, alcohol and processed foods,” says McNamara. Turning off devices, increasing exercise [or] activity – at least 30 minutes per day – and staying spiritually grounded through meditation [or] prayer, for example, also help, Gencor’s McNamara notes.

Welstead adds: “It also probably means supplementing for our brain. [It’s] incredibly difficult to feed this hungry organ with everything it needs in the modern world solely through food. This is particularly true if you follow a vegetarian or vegan diet.”



Results from a human clinical trial suggest regular consumption of cranberry supplements could improve memory and neural functioning

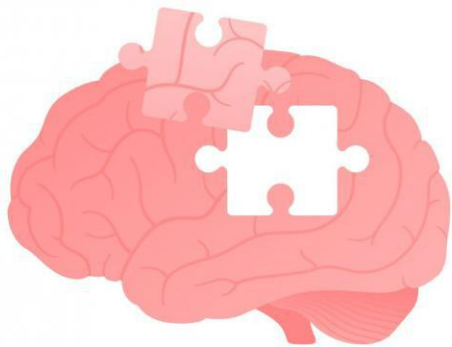
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# The emergence of functional foods



**H**istorically, supplements like ginseng, curcumin, ginkgo and omega-3s have been among the go-tos for supporting cognitive health.

However, the explosion of newer, science-backed ingredients gives end-users a wider field of



DHA supplementation might improve cognitive health in older adults while lowering and delaying Alzheimer's disease onset risk

nutrients and delivery options to help delay cognitive decline and boost memory, recall and learning.

"Because the market is still immature and the science is evolving, there are still plenty of ways to differentiate new product entries. Emerging science is leading to lots of new discoveries and correspondingly to additional varied and nuanced claims," explains Alternative Laboratories' Cooper.

Scholey says there are two emerging trends around ingredients for cognitive health.

The first is functional food-based delivery systems and the second is novel combinations of ingredients which target different processes



Normal vitamin D levels could aid dementia prevention

known to underpin brain health. For starters, he points to a commercially available functional RTD beverage

featuring blackcurrant, l-theanine and pine bark extract said to support mood, cognition and immune function.

# A future field for growth



**U**nderstanding that the pandemic has had a negative impact – and ongoing – on people’s ability to focus as before, the Grand Review report indicates a growing market for category development.

“The COVID-19 pandemic has had a positive impact on the

market and fueled the demand for these [brain health] products among consumers mainly because of the deteriorating mental and emotional state of people,” the report says.

Additionally, this area of cognitive performance is not yet saturated with players,

which means there is plenty of room for new entrants and innovative solutions.

Cooper says, “The post pandemic world has learned to value resilience, specifically mental resilience. That, combined with the mega trend of healthy ageing, means that both the consumer

“  
The COVID-19 pandemic has had a positive impact on the market

Grand View Research report

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expectations for brain health and the market size will continue to grow.”



# Industry Experts - Q&A

Paid content





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**Visit us:** [www.gencorpacific.com](http://www.gencorpacific.com)

## How has the mental wellness/ cognitive health space changed in the last two years, and how has your company innovated to support this shift?

The global brain-health supplement market is predicted to reach over \$13 billion by 2028, with a CAGR of 8.0% to 2028.<sup>1</sup>

Countless people have experienced varying

degrees of mental health challenges due to the pandemic in in these past three years. One in five Americans feel they are burdened with more stress<sup>2</sup> and data also showed a sharp disparity between age and need for a renewed commitment to mental health<sup>1</sup>. Up to 48% of adults aged 18 to 25 reported feeling anxious or depressed last June, with one-third saying they had an "unmet need" for therapy or counseling.<sup>3</sup>

This is where the supplement industry can have a profound impact in the cognitive health space – providing clinically researched ingredients that have a real effect on cognitive function, mood, stress and sleep are vital in this current market.

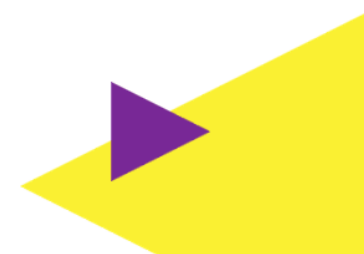
Gencor's Calmaluma® and Levagen®+ are two brands that have received real interest in the market their ability to improve mood and sleep, respectively.

## In what areas of the cognitive health space are your ingredient(s) best suited for formulation, and in what type of applications?

HydroCurc® is the world's most bioavailable curcumin that has been clinically proven to increase brain-derived neurotrophic factor – an important protein involved in memory and energy formation<sup>4</sup>. It solves the bioavailability and functional challenges of curcumin by using LipiSpense® – an award winning dispersion technology.

Adaptogens are active ingredients that may impact how your body deals with stress, anxiety and fatigue. Calmaluma® is a branded *Caralluma Fimbriata* extract, which has been clinically researched for its therapeutic potential in easing anxiety and stress in adults.<sup>5</sup>

Affron a branded Saffron extract, backed by 8 human clinical trials, is another adaptogen, having a huge impact in this space. The mental wellness effects seen in Affron® studies are supported by multiple "pathways": its neuroprotective properties, impact on melatonin



for those who can't sleep, and ability to support a healthy inflammatory response.

Lastly, sleep is essential for the mind and body, yet sleep disturbance is a common problem linked to a number of negative side effects such as poor cognitive function and a dampened immunity. Palmitoylethanolamide (PEA) is an endogenous fatty acid amide that can enhance sleep via potential interaction with the endocannabinoid system. Levagen+, the industry's most bioavailable PEA, has been clinically proven to improve sleep by reducing the time taken to fall asleep and improve cognitive function upon awakening, without any drowsiness.

### 3 How do you define your company's point of differentiation and advantages in the market?

Gencor only has proprietary branded ingredients that all have multiple published human-clinical science. We also innovative delivery technologies that are backed by pharmacokinetic studies, increasing our ingredients efficacy and ability to

provide functional benefits in areas related to the brain.

### 4 What scientific research supports your ingredient(s) efficacy in this space?

**Levagen+** has five human-clinical studies published and two that are under peer-review, along with seven human-clinical studies that are currently underway. **Affron** has eight published clinical studies. **HydroCurc** has five published clinical studies with several more ongoing. **Calmaluma**, our newest addition, has one human clinical trial published.

### Outside-the-box Adaptogens – fueling mental health and mood

As consumer interest in adaptogens grows, brands need to think outside the box to find novel, effective ingredients to manage stress, such as saffron and curcumin.

**CONTINUE READING HERE**

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## Q&A

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### 1 How has the mental wellness/ cognitive health space changed in the last two years, and how has your company innovated to support this shift?

More than ever, consumers are looking for holistic solutions that support their physical, mental, and emotional well-being. This shift in consumers' health concerns to a more preventative approach, has resulted in a demand for solutions for mental health including ways to improve sleep,

mood and protect cognitive health for years to come.

Therefore, as consumers recognize the immediate and long-term importance on good cognitive health, they are looking for nutraceutical products that support their healthy ageing as a lifelong endeavor.

To meet the consumer's demands, Lubrizol provides solutions for cognitive health and mental wellness, that include a wide offering of branded botanical and mineral ingredients with value-add and scientific evidence, thus enabling differentiated nutraceutical solutions to support several cognitive functions.

### 2 In what areas of the cognitive health space are your ingredient(s) best suited for formulation, and in what type of applications?

Lubrizol branded ingredients include:

- NEWCAFF™ microcapsules, a sustained caffeine release with a clean taste for a long-lasting

alertness, focus and concentration.

- LIPOFER™ microcapsules, a bioavailable and stable source of iron to contribute to maintaining a normal cognitive function and to the reduction of tiredness and fatigue.

- MAGSHAPE™ microcapsules, a concentrated source of magnesium for an active lifestyle that supports relaxation, stress relief and improves sleep quality.

- ASTAGILE™ microcapsules\*, a 100% natural solution based on natural microencapsulated astaxanthin with spirulina to improve memory and prevent cognitive decline.

- CURCUSHINE™ microcapsules \*, a bioavailable and soluble source of curcumin that can act as a natural sleeping helper and provides anti-aging benefits from within.

A wide range of applications is possible with our added value branded ingredients including all kinds of dietary supplements such as sachets, syrups, chewable tablets, effervescent tablets, etc.

and functional foods such as powder milk, yoghurts, etc.

*\*Currently under development*

### 3 How do you define your company's point of differentiation and advantages in the market?

Lubrizol's unique science-backed nutraceutical ingredients provide a multi-functional holistic approach to address the different needs of cognitive and mental wellness. Our key point of differentiation is that all our branded ingredients are based on microencapsulation technology for an improved ingredient performance to support cognitive health.

### 4 What scientific research supports your ingredient(s) efficacy in this space?

Most minerals already have supporting claims associated to cognitive health. In our case we performed some in vivo tests to assess the protective cognitive effect of ASTAGILE™ microcapsules by performing an animal study where it was shown, it exerted a protective cognitive effect by reversing LPS-induced microglia activation.





## Q&A

**Contact:** Tony Gay

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### 1 How has the mental wellness/ cognitive health space changed in the last two years, and how has your company innovated to support this shift?

More and more consumers around the world are interested in cognitive health products. As a result, the demand for nootropics is increasing among a

wide range of demographic groups. Nootropics are cognitive enhancers that can be incorporated into foods, beverages, and supplements to help improve functions like focus and memory. The percentage of global beverage launches with brain or nervous system claims has steadily increased over the past decade. As the market is still in its infancy, nootropic drinks are expected to witness substantial growth. Gaming and esports are becoming key drivers of the nootropic drink trend. Prinova offers a wide selection of ingredients that can be used in nootropic drinks, especially those that are popular with gamers.

### 2 In what areas of the cognitive health space are your ingredient(s) best suited for formulation, and in what type of applications?

There are growing opportunities to add brain-boosting benefits to functional beverages and meet growing consumer demand for convenience. Prinova offers many ingredients for beverages, from functional ingredients that benefit cognitive health, to formulation aiding ingredients, such as flavours and sweeteners.

These ingredients can be used in all types of drinks, from fruit juices to powdered drinks, including energy drinks and other drinks intended for gamers. Prinova also offers ingredients suitable for gummies, a convenient format that is extremely popular among consumers and is a good alternative to drinks in the nootropic market.

### 3 How do you define your company's point of differentiation and advantages in the market?

Prinova has the right products and expertise to exploit the nootropic opportunity, with a wide range of unique ingredients, branded ingredients, and premix solutions. We offer a variety of value-added capabilities in the nootropics category, including full product development support for gummies, drinks, capsules, tablets, and ready-to-mix powders. We help our customers simplify their supply chain and accelerate their innovation



pipeline with our custom premixes and ready-to-market blends for nootropics. Our full range of products and solutions help them react quickly and take advantage of new and emerging trends in this category.

#### **4** What scientific research supports your ingredient(s) efficacy in this space?

Prinova offers a wide range of branded ingredients as the result of strategic partnerships and best-in-class scientific research. For example, Prinova is a key distributor for Sabinsa's wide range of premium botanical ingredients, whose benefits for brain health are backed by scientific studies: Bacopin® can help reduce anxiety and mental fatigue, Curcumin C3® has been proven to support cognitive function, and Selenium SeLECT® is associated with reducing mental fatigue. Other Prinova's nootropic ingredients include ginkgo biloba, ginseng, yerba mate, guarana, bacopa, and rhodiola. Prinova also offers vitamins and

minerals with demonstrated nootropic benefits, such as B-vitamins, vitamin C, zinc, calcium, and magnesium. Our latest launch in the cognitive health area, AlphaTea™, is a natural source of L-Theanine, an amino acid found naturally in green tea. It improves cognitive performance (attention and reaction time improvement), eases anxiety, reduces stress and relieves insomnia. Contact us for more information about our products and services.

#### **Cognitive focus: new opportunities in functional beverage markets**

Wellbeing today is about much more than just physical health. People are increasingly seeking ways to support their cognitive health, too, with 66% of consumers globally now interested in cognitive health products

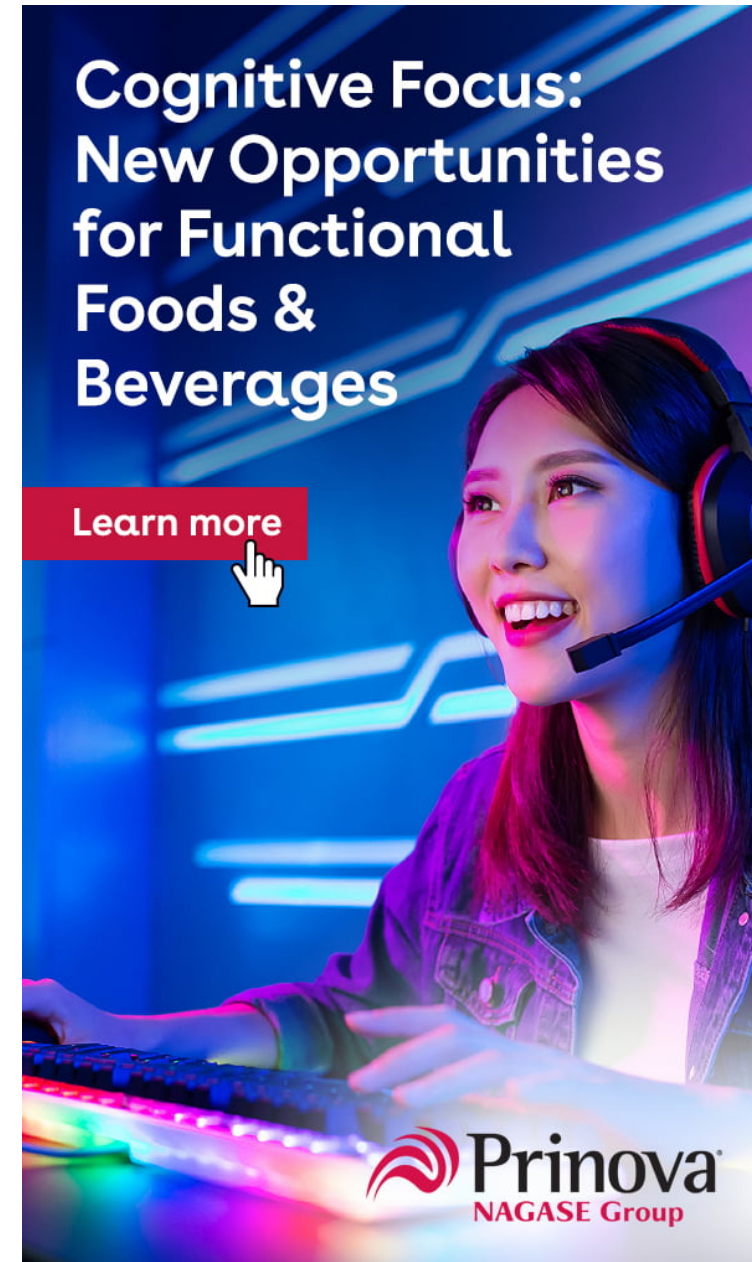
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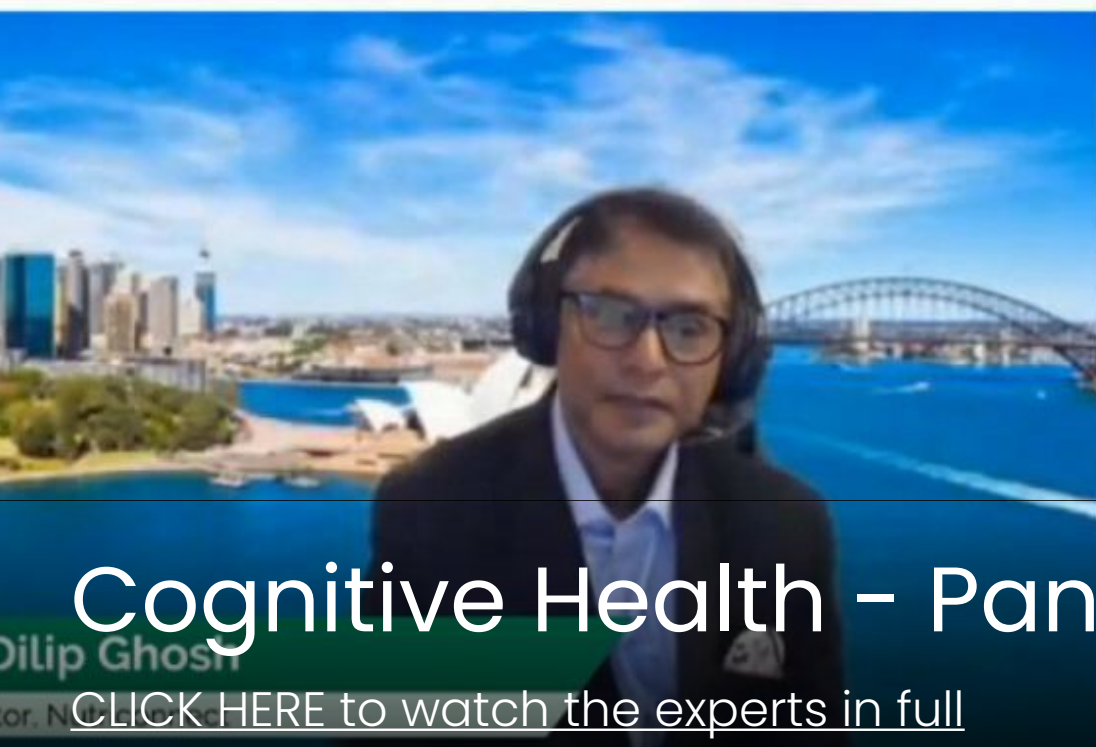
## **Cognitive Focus: New Opportunities for Functional Foods & Beverages**

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# Cognitive Health – Panel Discussion

[CLICK HERE to watch the experts in full](#)



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# Biographies

Our expert contributors

**Rachel Yarcony, Co-founder & CEO, myAir**

Through 20+ years of executive management roles at companies including Nestle, Teva Pharmaceuticals, and other leading organizations, Rachel Yarcony experienced first-hand the impact of stress on business executives. She thus set out to create a company to help individuals build stress resilience with a combination of body and mind analytics and adaptogenic, plant-based foods as an alternative to prescription medication. Together with leading behavioral researchers, scientists, and nutrition experts, Yarcony created myAir, a scientific solution to measure, manage, and relieve stress through data-driven, personalized insights and plant-based functional food recommendations.

**David J. Foreman, Founder, The Herbal Pharmacist**

David J. Foreman is a pharmacist, naturopath, author, speaker and media personality known internationally as, "The Herbal Pharmacist®". His background in pharmacy and natural medicine put Foreman in an elite class of health experts. Foreman is highly sought for his abilities as a science engineer, connecting the science world with sales and marketing. He is a graduate of the University of South Carolina College of Pharmacy, and author of hundreds of articles and dozens of books. Foreman is a member of the editorial advisory board for Nutritional Outlook and on the content advisory board for Vitafoods Europe, Vitafoods Asia and Vitafoods Insights. His mission is to educate as many people as possible about the benefits of natural health and healing using his "4 Pillars of Health: Diet, Exercise, Spirituality and Supplements."

**Joe Welstead, Founder & CEO, Motion Nutrition**

Joe Welstead is a former Scottish international swimmer turned performance expert. Having experienced the perils of 'uppers and downers' in the forms of caffeine and sedatives, Welstead has dedicated his life to helping people find natural, restorative sleep through the night and high energy in the day. Working with world class experts in nutritional therapy and neuroscience, he has developed a range of market-leading natural supplements. As founder and CEO of Motion Nutrition, Welstead believes that with better sleep and less stress, everything in life comes easier.

**Jennifer Cooper, President, Alternative Labs**

Jennifer Cooper is the president of Alternative Labs. She has spent over 25 years in consumer healthcare, including supplement, food and over-the-counter drug companies. Cooper has held senior management roles in the US and Europe. She also owns healthcare consulting company, Lead Point Solutions, that has developed novel products for companies in more than a dozen countries. Cooper has consulted on products and business development projects in North America, Europe, Mexico and Asia and has lectured all over the world at supplement and drug conferences. Her consulting work includes several Fortune 500 and

multinational healthcare corporations. Cooper has developed over 300 new products in the areas of OTC, dermo-cosmetics, medical devices, medical foods and dietary supplements with more than a billion dollars in sales.

#### **Eric Meppem, Co-Founder, Pharmako Biotechnologies**

Eric Meppem is the co-founder and Commercial Director of Pharmako Biotechnologies Pty Ltd. For over 20 years, Meppem has specialized in innovation from product, material and marketing perspectives in the nutraceutical industry.

His extensive experience across FMCG, wholesale, retail, manufacturing, supply and customer insights include senior management positions at Pharmicare Laboratories and Swisse Wellness (now H&H Group). Pharmako Biotechnologies is now an international award-winning business, a leading provider of materials created through scientific research and innovative product development.

Before the nutrition industry, Meppem worked in health and fitness for eight years whilst competing at a national level in track and field. Now he's learning to pace himself and balance work/life/family/exercise loads.

#### **Trevor Wagner, Category Health Manager, IFF Health**

Trevor Wagner is a Category Health Manager in IFF Health's new Global Commercial Development Organization and responsible for working with cross-functional teams to identify and develop new, and innovative ingredients and products that benefit digestive and brain health. He works with a team that focuses on other health areas that IFF customers and consumers will be interested in either now or in the future such immune, metabolic, mobility, intimate and emerging health areas like oral health. Wagner graduated from the University of Wisconsin-Madison with bachelor's degrees in Genetics and Bacteriology and received a Ph.D. in Genetics at Michigan State University. He now has years of experience bringing new technologies and products to the market.

#### **Maggie McNamara, Marketing Manager, Gencor Pacific**

Maggie McNamara is a veteran brand and marketing strategist. Working with multi-million dollar companies to grow their brand value and increase market share, she is an expert in advertising, promotion and PR, and has navigated and mastered both the C2B and B2B markets. After spending over a decade working with companies like BMW, Procter & Gamble, Bavaria Brau, Silicon Graphics, Jacuzzi, and Sundance Spas she ran a successful marketing agency with her husband for over 15 years. Maggie has a degree in Communications & Multimedia, a degree in Marketing Communication and a Master's in Organizational Communications from the University of Johannesburg, South Africa formerly RAU.

**Professor Andrew Scholey, Chief Scientific Officer of Ārepa Nootropics**

Professor Andrew Scholey is a leading researcher into the neurocognitive effects of various interventions – including recreational drugs, medicines, and nutritional interventions. He has led over 100 clinical trials, published 300 peer-reviewed journal articles and secured over \$25 million in research funding. He is placed in the top 1% of researchers worldwide across all science disciplines, with high field impact in Nutrition & Dietetics, Clinical Science and Psychiatry. Andrew was Lead Investigator on a series of first-into-human studies into the human bio-behavioural effects of nutritional interventions, focusing on potential nootropic and anti-stress/anxiolytic properties. More recently his work focuses on cognitive risk reduction and neuroimaging/biomarker techniques to better understand the mechanisms of cognitive change. As CSO of Ārepa Nootropics, and as an expert advisor to numerous global industry bodies, Scholey works closely with industry to translate research into evidence-based, end-user health benefits to brain health.

**Dr Dilip Gosh, Director of Nutriconnect**

Dilip is an international speaker, facilitator and author and is professionally associated with many institutions. He is also currently on the content advisory board for Vitafoods Global. Dilip has published more than 100 papers in peer-reviewed journals and numerous articles in food and nutrition magazines and books. His two books, "Pharmaceutical to Nutraceutical: A Paradigm shift in disease prevention" & "Natural Medicines—Clinical efficacy, Safety and Quality", were published under CRC Press. His most recent books, "Nutraceutical in Brain Health & Beyond" and "Fenugreek: Traditional & Modern medicinal uses", were published by Elsevier/Academic Press & CRC Press.

**Deborah Thoma, Marketing Manager, Nektium**

Deborah Thoma has many years of experience in the field of international B2B marketing and communications, having held several roles across Europe. She has been immersed in the nutraceutical industry for half a decade. At Nektium she is responsible for all marketing-related activities, including specific market activation where she works on boosting awareness of the health benefits of the company's botanical ingredients.

**David Tomen, Founder of Nootropic Expert**

The founder of NootropicsExpert, David Tomen has been researching nootropics and brain optimization for over 10 years. Tomen has authored two books, "Secrets of the Optimized Brain" and "Head First – The Complete Guide to Healing and Optimizing Your Brain with Nootropic Supplements", which provide in-depth information on nootropic supplements including reviews, dosage information, side effects, drug interactions, brain function, and nootropic stacks.

Thank you for reading the

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