



Crafting the Smarter Beverage

Your guide for formulating beverages
with the non-stimulant ingredient to
support mental energy, psychomotor
speed, focus, and attention.

Cognizin®
BY  KYOWA

Energy drinks, nootropic beverages, and clean energy are among 2025's hottest CPG categories.

At the same time, consumers are looking for new ways to support brain health. This Beverage Formulation Guide analyzes trends in these categories and offers key considerations for formulating with Cognizin®, the only citicoline studied in healthy adults and adolescents, which has been shown to support focus, attention, psychomotor speed, and working memory.





Innovation Energizes Consumers

The energy drink market is poised for innovation and growth. In 2024, demand for [energy drinks](#) jumped nearly 10%, exceeding \$22 billion in consumer sales, according to Nielsen IQ. Additionally, the research firm reports that caffeine-related online searches skyrocketed in the past year.

Simultaneously, many consumers are looking for beverages to help them meet their personal health goals. According to Innova Market Insights, [sugar-free, vegan, and reduced calorie](#) are among the top claims made in energy drinks for the U.S. and Canada markets. As individuals seek more ways to support their cognitive health, beverage brands must innovate to offer multidimensional brain health benefits.

Cognitive support ingredients provide synergistic benefits to energy drinks and other caffeinated beverages. Whenever consumers reach for an energy-boosting beverage, brands can also deliver functional ingredients that support memory, productivity, and long-term brain health.

For over three decades, Cognizin® has been the go-to nootropic for cognitive health support. What makes it stand out?

- Trusted in over 300 functional food, beverage, and supplement products
- More than 30 years of clinical research
- The only citicoline studied in healthy adults and adolescents
- Clinically tested for efficacy
- Holds 4 U.S. patents

When it comes to improving mental energy, most consumers want a sustained effect. But there’s a difference between those who consume cognitive-supporting beverages and those who use supplements. Beverage consumers are more likely than supplement consumers to look for short bursts of mental energy. That’s likely because they also struggle with daily focus and attention.

From Kyowa Hakko’s 2024 survey of U.S. cognitive health consumers



Complementing Caffeine

Caffeine is the primary stimulant in numerous energy-focused beverage applications targeting a wide variety of energy consumers. As a functional benefit, **cognitive support** plays a complementary role in energy drinks, which rely heavily on caffeine to stimulate a sense of alertness, wakefulness, and feelings of energy.

There are numerous occasions for consumers to seek cognitive support in an energy drink or caffeinated beverage. Pre-workout and sports nutrition drinks help athletes get the most out of physical training. A serious gamer might prefer a beverage that aids focus and psychomotor performance. Even coffee, the “original” energy drink, has the opportunity to go beyond caffeine and offer non-stimulant nootropics to support productivity through focus, reaction time, and productivity.

In other contexts, consumers use nootropic drinks in social settings as an alternative to beer, wine, and cocktails. As these consumers seek non-alcoholic options, many are also

looking for drinks that support energy without stimulants. Functional beverages enhance the social experience by helping them stay attentive and focused during conversations with friends and family.

→ As a functional benefit, cognitive support plays a complementary role in energy drinks, which rely heavily on caffeine to stimulate a sense of alertness, wakefulness, and feelings of energy.

Lifestyle Drives Demand for Cognitive Support

There are many factors that drive consumer purchases of energy drinks and caffeinated beverages. A 2024 survey from Kyowa Hakko points to personal lifestyle as a key factor motivating cognitive health consumers to purchase products like energy drinks and brain health supplements.

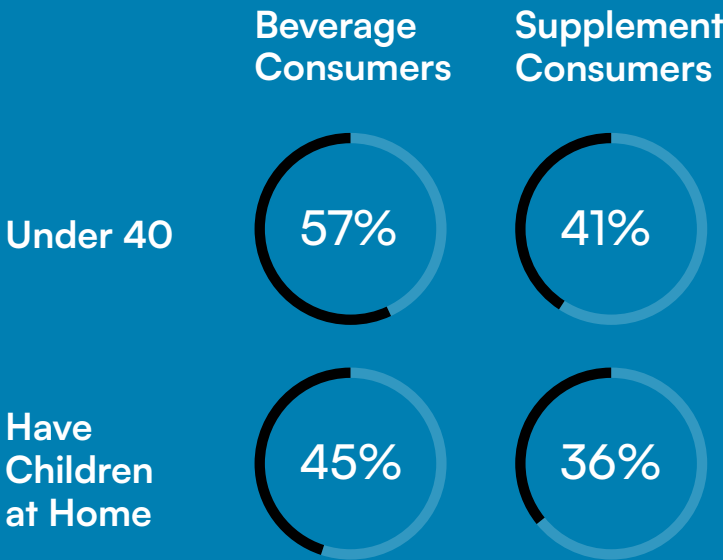
According to Kyowa's survey of 1,023 cognitive health consumers, 53% expressed interest in beverages to support cognitive health while 41% reported having already consumed drinks for cognitive support. "Cognitive health consumers" are defined as consumers who are interested in consuming products for cognitive support. More than one-third, 35%, report consuming more energy drinks now versus five years ago. Looking forward to the next three months, 37% said they are highly likely to have an energy drink.

And, according to the survey data, problems with mental energy are commonplace among these consumers. About two-thirds, 66%, said they experience a problem with mental energy nearly every day. Many said they are highly likely to use sleep aids or supplements to aid cognitive health or energy. And about 74% expressed interest in cognitive health support via supplementation.

→ 53% of cognitive health consumers expressed interest in beverages to support cognitive health, while 41% reported already having consumed drinks for cognitive support.

Cognitive beverage consumers tend to be younger and they're more likely to be parents with children still at home.

From Kyowa Hakko's 2024 survey of U.S. cognitive health consumers





Cognizin® — Citicoline for Cognitive Health

“Cognitive health” is a broad term that encompasses wellness and mental function within the mind-body experience — aspects such as focus and attention, motor skills, and memory. Being cognitively healthy means being able to react quickly to stimuli and perform tasks with accuracy. Functional ingredients for cognitive health support can complement beverage formulations by enabling beneficial claims not normally associated with caffeine and other stimulants, such as improved reaction time and help reducing errors on tasks.

From Kyowa Hakko, Cognizin® is the patented citicoline ingredient for food, beverage, and dietary supplement applications. Citicoline is a compound that affects the health of brain cells and neurons and functions universally throughout the human body as a critical component to the strength and health of cell membranes. As one of the world’s most thoroughly researched citicoline ingredients, Cognizin® citicoline brings science-backed cognitive health support claims to functional beverages.



Cognitive beverage consumers are more likely than cognitive supplement consumers to be early adopters and prioritize productivity.



Formulating With Cognizin® Citicoline

Beverage formulators face challenges when working with functional ingredients. Sugar and other sweeteners are often necessary to mask caffeine’s bitterness. Botanical-based ingredients have compelling functional benefits but frequently suffer from issues with solubility, stability, and taste. Oily and liquid ingredients may require special handling and storage.

As an ingredient, Cognizin® is known for ease of use during development and production. The high-purity citicoline ingredient comes as a white powder that is both easy to mix and pour and requires minimal special handling or storage. Cognizin® is highly soluble in water and has no effect on beverage texture or mouthfeel. It has high heat stability, so it can be formulated into coffee drinks, teas, single-serve coffee pods, and other hot drinks without losing efficacy.

Importantly, Cognizin® citicoline has a neutral taste and odor and easily integrates into most energy drink formulations without the need for flavor masking. Cognizin® contains no additives, added flavors, or preservatives. It is allergen-free, non-GMO, vegetarian, and certified Kosher.

Cognizin® is ideal for formulating in beverage formats. Manufacturers and formulators love these practical benefits:

PURE

Contains no food additives, artificial flavors, or preservatives

WATER-SOLUBLE

Easy to use in beverages and liquids

ALLERGEN-FREE

Considered free from common allergens

GRAS

Self-affirmed GRAS status achieved in 2009 and is considered safe for food and beverage applications

FERMENTATION

Produced by an innovative fermentation process

NEUTRAL IN TASTE

Neutral and slightly acidic taste complements numerous product flavors

STABLE

Stable in liquids and in high heat

VEGETARIAN

No animal-origin material is used in Cognizin®

KOSHER

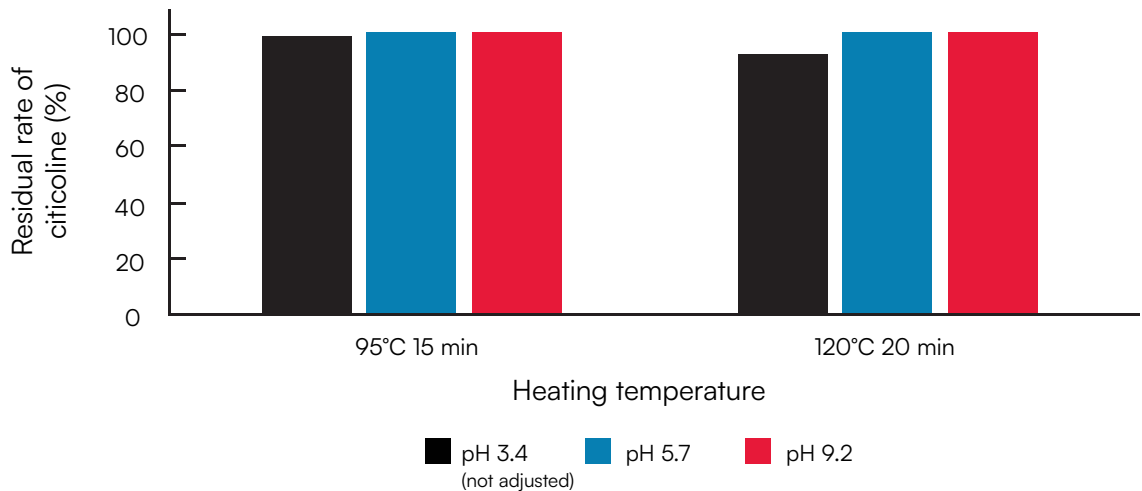
Certified as Kosher ingredient

Stability Every Step of the Way

Understanding the stability of active ingredients is essential when developing functional beverages. Stability data ensures that products maintain their intended quality throughout processing, storage, and consumption. This is especially important in beverages, where formulation conditions — like heat and time — can affect the integrity of key ingredients.

Cognizin® citicoline is backed by robust stability data that supports its use across a variety of beverage applications. From hot-fill processing to in-market product shelf life, Cognizin® is shown to remain stable and efficacious, delivering high-quality products with intended benefits to end consumers.

Heat Stability of Cognizin® in Aqueous Solution

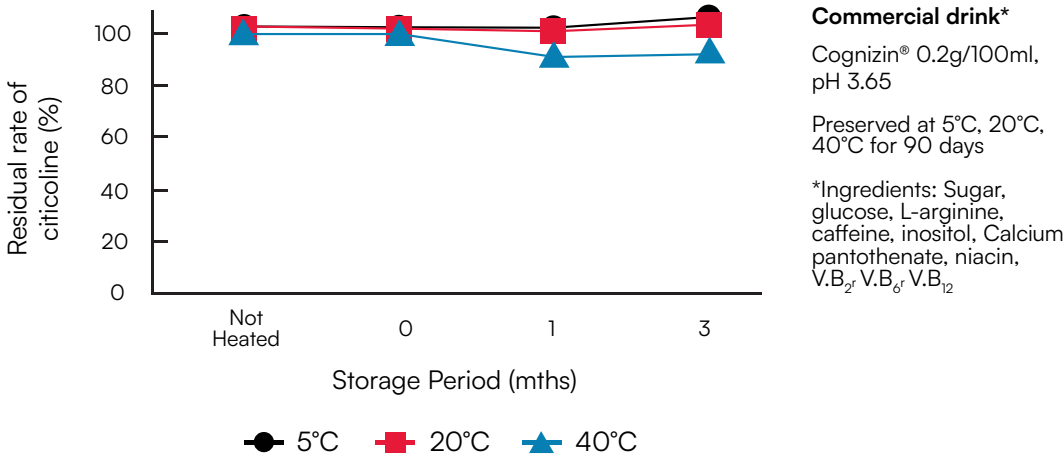


0.1% Cognizin® solutions were prepared and heated either at 95°C for 15 min or 120°C for 20 min. **Stable in aqueous solution even at 120°C for 20 min.**

→ Can be safely formulated into hot beverages without compromising efficacy or quality, remaining stable in aqueous solutions up to 120°C for 20 minutes.

→ Cognizin® maintains stability — from manufacturing and processing to shipping, stocking, and consumption.

Stability of Cognizin® in Drink on Sale



0.2% Cognizin®-containing commercial drink* was heated at 90°C for 5 minutes and stored at 5°C, 20°C, and 40°C. **Stable in commercial drink*.**

How Citicoline Works

Citicoline plays a vital role in maintaining cellular stability, supporting neurotransmission for enhanced communication between nerve cells, and promoting metabolic function for optimal brain function.

1 Supports Phospholipid Synthesis

Citicoline provides precursors for the synthesis of phosphatidylcholine, a key component of cell membranes. This helps repair and protect brain cells.

2 Supports Neurotransmitter Levels

Citicoline provides choline, essential for the production of acetylcholine, a neurotransmitter involved in learning, memory, and attention.

3 Supports Brain Energy

It supports mitochondrial function, boosting ATP production in brain cells and supports cognitive function.

Cognitive Support, Backed by Science

At dosages of 250mg/day, structure and function claims may be made regarding focus and attention, accuracy, phospholipids, and productivity. Additionally, at a dosage of 500mg/day, further claims may be made regarding mental energy, psychomotor performance, oxidative stress, and memory.

Kyowa Hakko's proprietary fermentation technology ensures the highest commercially available levels of purity of Cognizin® citicoline. Unlike generic citicoline ingredients, Cognizin® citicoline has self-affirmed GRAS status and is considered safe for all food and beverage applications.

Cognizin® is produced in Japan according to patented manufacturing processes and using the highest quality raw materials. Furthermore, Cognizin® — not a generic substitute — is the only citicoline ingredient used in leading clinical research conducted on the compound. By formulating with Cognizin®, brands can reassure consumers they are not only getting the highest purity, but also the

same authentic ingredient, manufactured by the same processes, as the ones used in the research that validates cognitive support claims for citicoline.

Cognitive support is a health benefit that fits with many types of drink applications. With more and more consumers looking to keep their minds sharp and support their brain health, Cognizin® citicoline is an easy-to-use solution for beverage formulations. Visit the [Cognizin® website](#) to learn more about the science behind Cognizin® citicoline, and how it contributes cognitive health support to beverage, food, and supplement applications and easily integrates into formulations in nearly any format.



Cognizin® Citicoline Structure/Function Claims*

GENERAL CLAIMS

- When taken daily, Cognizin® supports long-term brain health^{6,8}
- Cognizin® supports dopamine and norepinephrine levels¹
- Cognizin® supports brain DNA synthesis and repair^{1,12,13}
- Cognizin® supports cognitive function^{2,7,8,9,10,11}
- Cognizin® supports acetylcholine levels¹

CLAIMS ≥250mg/day

- Cognizin® helps support productivity through focus, reaction time, and accuracy^{4,6,7,9,10}
- Cognizin® supports phospholipid metabolism in the brain^{1,5,6}
- Cognizin® helps reduce errors while on task^{4,7,9}
- Cognizin® helps improve accuracy^{4,7,9}
- Cognizin® helps improve focus and attention^{6,7,9}
- Cognizin® supports phosphatidylcholine production^{1,5,6}

CLAIMS ≥500mg/day

- Cognizin® helps support memory^{2-6,8,10,11}
- Cognizin® supports motor speed and function^{4,9,10}
- Cognizin® supports mental energy^{5,6}
- Cognizin® helps improve reaction time^{4,9,10}
- Cognizin® supports phosphatidylcholine production^{1,5,6}

*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.

For more information about Cognizin® contact:
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