

# DuraBeet® by Agrana: Tap into the power of betaine!



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# Pure betaine!

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**DuraBeet®**

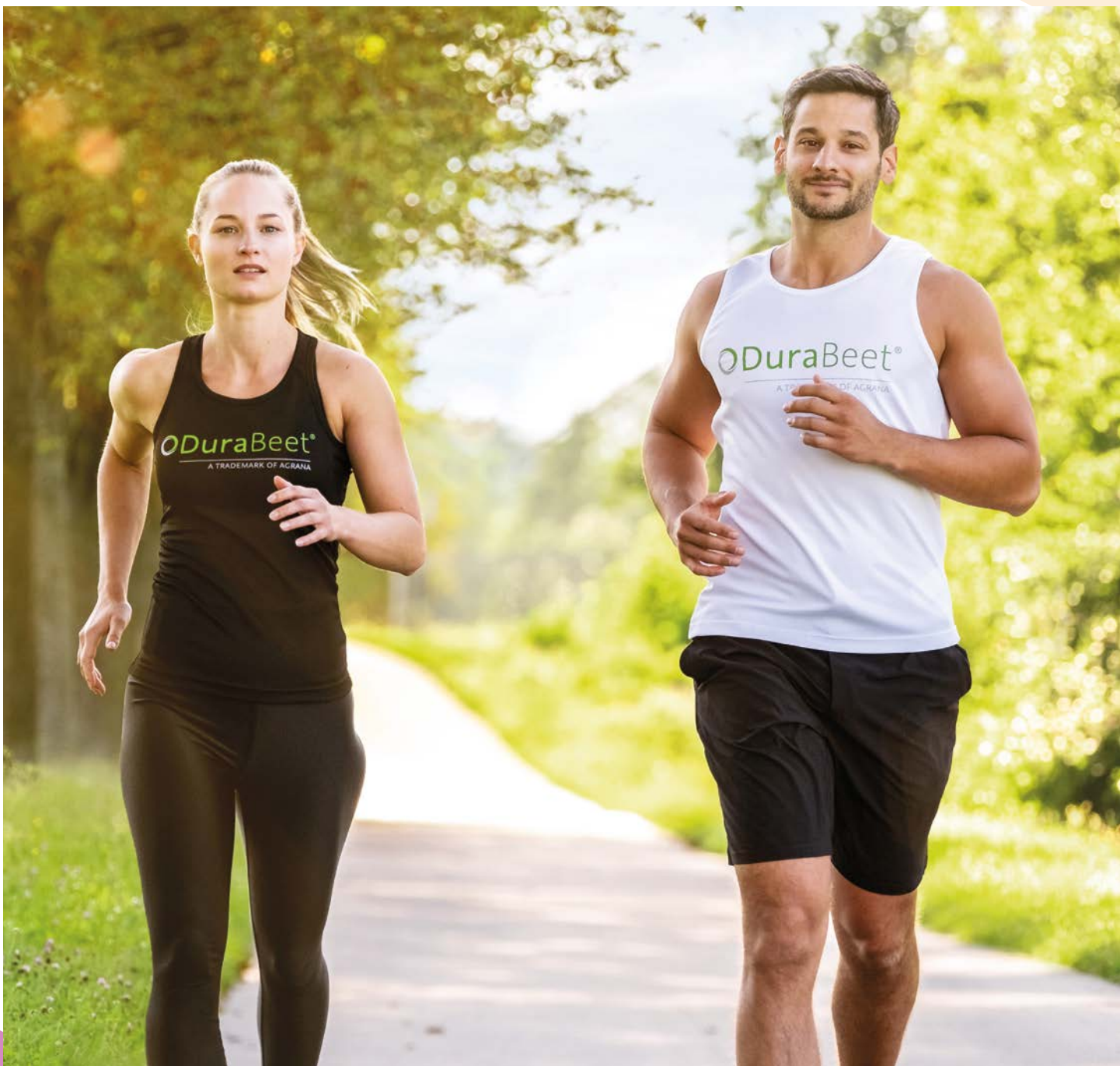
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# What is Agrana's DuraBeet®

Agrana's DuraBeet® is a 100% Natural Betaine ingredient designed to help manufacturers formulate healthy products that tap into key consumer concerns. Extracted from GMO-free sugar beets, DuraBeet® can deliver a range of scientifically backed health benefits for products, ranging from dietary supplements to sports nutrition.

"DuraBeet® is a natural betaine multifunctional, highly bioavailable ingredient that can be used to help maintain good heart, protect the liver and gut, and boost cell structure and functionality – among other benefits," says Ana Gavräu, product development and innovation manager at Agrana. "This is an ingredient that can be used by formulators to promote overall wellbeing."

While the global betaine market size reached \$3.7 billion in 2021 - and is expected to reach \$5 billion by 2027<sup>1</sup> - there is still a huge amount of untapped market potential in the food supplement sector. This insights report will examine the benefits that DuraBeet® can bring to formulators, and the various market opportunities that this natural, multifunctional ingredient can deliver.



# What are consumers looking for?

Agrana has identified 'Forever Young' as a global meta-trend. This is about taking a proactive healthy lifestyle approach to strengthen the body and the mind. The European health supplement market alone is expected to grow by a CAGR of 5.8% by 2030<sup>2</sup>, and there is plenty of room for innovation in numerous product categories.

Meanwhile, in the Asia Pacific region, some 1.3 billion people will be over the age of 60 by 2050<sup>3</sup>, meaning the market for products that boost immunity, cognitive, heart and digestive health is only set to grow.

Consumers globally are increasingly aware that impaired organ health, high stress levels, and immune system problems can all significantly impact their quality of life. Notably, interest in holistic health approaches that incorporate both physical and mental wellbeing are on the rise, creating new opportunities for brands.

Formulators and brand managers therefore need to identify Innovative + natural functional ingredients that can meet consumer needs across a range of product categories. DuraBeet®'s multifunctionality means that it is ideally suited to helping companies tap into a range of consumer trends.



## Healthy ageing

Demand for products that support healthy ageing has long been driven by an ageing population. This demand has been strengthened in recent years following the experience of the Covid-19 pandemic. Some 40% of consumers globally say they have adopted a lifestyle approach to ensure they stay fit and active until as late in life as possible.<sup>4</sup>

Diet is central to this aim, and consumers are therefore looking for products that support longevity through organ health and cognitive function. DuraBeet®'s multifunctionality – especially its ability to lower homocysteine levels – can be incorporated by formulators to create new health products and boost existing ones.

## Gut health for digestion, and more

More and more people are tuning into what nutrition can do for digestive health. Knowledge about the influence of the gut on immune function is now mainstream, and many consumers are aware of terms such as the 'gut-brain axis'. Nearly one in four survey respondents to a recent US survey said that digestive health is the most important aspect of their overall health.<sup>5</sup>

DuraBeet® offers manufacturers a key opportunity to tap into this trend. A recent gut integrity study conducted in broilers, demonstrated that betaine can regulate gut permeability.<sup>6</sup>

"Gut integrity ensures that while nutrients pass through, toxins and pathogens are blocked," explains Gavrău. "Betaine has been shown to protect essential proteins that play a role in gastrointestinal permeability, and therefore play a crucial role in gut barrier function."

Coeliac disease is a digestive disease that damages the small intestine and interferes with the absorption of nutrients from food. Gliadin, a gluten component that can cause coeliac disease, does not occur in sugar beets, and DuraBeet® is produced without adding gluten-containing substances.

## Cognitive health

The beneficial effects of betaine for the gut-brain axis have implications for boosting cognitive function. Climate change, stressful lifestyles, and rising geopolitical tensions have all underlined the importance of maintaining mental as well as physical health.

According to 2021 FMCG Gurus research, 66% of global consumers without specific health problems expressed an interest in cognitive health products.<sup>7</sup> More and more consumers across the globe are becoming more aware of the importance of their mental wellbeing. DuraBeet® can be easily incorporated into health-focused products designed to help consumers to destress and holistically look after their body and mind.

## Sports nutrition and active lifestyles

Again, the global coronavirus pandemic has played a key role in driving this trend, as consumers seek to improve their immune systems through exercise and products that aid fitness and activity. The global sports nutrition market size was valued at \$34.8 billion in 2020 and is projected to reach \$67.9 billion by 2030.<sup>8</sup>

"Betaine can aid physical, mental and athletic performance through hydrating the body, improving power and endurance and shortening recovery times," says Gavräu. "It can also contribute to the synthesis of other metabolic active substances, such as creatine, which is a cell energiser."

As the sports nutrition market moves from specialisation to mainstream appeal – boundaries between sports nutrition and the healthy snacking sector are becoming blurred, for example – DuraBeet® presents an opportunity for manufacturers to differentiate their products with a natural, multifunctional ingredient. DuraBeet® can easily be incorporated into existing protein smoothies and shakes or form the basis of new sports-based formulations.

"Another benefit is that betaine is not excreted like for example vitamin C if it is not immediately utilised," says Gavräu. "It is metabolised and used by the body when it is needed."



# What are the key benefits of natural betaine?

Natural Betaine - also called betaine anhydrous, or trimethylglycine (TMG) - is the methyl derivate of the amino acid glycine and can be thought of as a vitamin-like substance. The compound is found in beets, broccoli, and grains although betaine supplements are typically manufactured as a sustainable by-product of sugar beet processing.

It is the molecular structure of betaine that makes it special and gives it two specific physiological functions. First, as an efficient osmolyte, betaine can play an important role in protecting cells, proteins, and enzymes from environmental stresses such as high salinity and extreme temperature. High levels of dehydration can lead to cell death.

Secondly, as a methyl group donor, betaine can play a positive role in the methylation cycle.<sup>9</sup> As humans age, the levels of an amino acid called homocysteine in the blood increases. This has been associated with a higher risk of heart disease, as well as liver and kidney complications.<sup>10</sup> Increased levels of betaine in the diet could help lower these levels by helping the body to metabolise homocysteine.<sup>11</sup>

Additional studies have suggested that betaine is involved in the synthesis of other metabolic substances such as creatine, and in protecting against harmful fatty deposits in the liver<sup>12</sup>. These deposits can be caused by alcohol abuse, obesity, diabetes, and other causes.

## What makes DuraBeet® unique?

DuraBeet®, Agrana's natural betaine supplement, is sustainably sourced from GMO-free sugar beets of European origin. The natural betaine is obtained via a two-step chromatographic process, which involves molecular sieving. "This is a physical rather than chemical process," explains Gavrău. "This sets us apart from synthetic betaines on the market. No chemical synthesis is involved, and no imports from outside of Europe required."

The state-of-the-art production site at Tulln in Austria employs low-emission industrial processing technologies in order to mitigate environmental impacts.

"We also cooperate with suppliers and customers in the form of long-term partnerships," adds Gavrău. This guarantees a robust, reliable supply chain, as well as the highest quality production standards. No raw material of animal origin is used in the manufacturing process.

The end result is DuraBeet® – a free-flowing, white, crystalline supplement that offers range of functionalities to help formulators tap into key consumer trends. DuraBeet® contains a minimum of 99% betaine; is heat stable up to 200 °C (390 °F); is 100% water soluble; and 98% bio-utilised. The product comes in 20-kilo PET bags, which provide a shelf life of 24 months.

"DuraBeet® is within the pH-neutral range, and is perfectly compatible with other ingredients," says Salwa Bakr, global technical category manager at Agrana. "There is no issue with our product having an impact on taste or stability in most application areas."

## What product applications can DuraBeet® be used for?

As a plant-based, sustainable, multi-functional ingredient, DuraBeet® is very well positioned to help manufacturers tap into growing nutrition trends. Consumers in the US, Europe, and Asia are increasingly looking for products that fit their on-the-go lifestyle, but that also offer extra added value. They think before they buy.

"We think of DuraBeet® as Swiss knife for formulators," says Bakr. "It is so multifunctional and can appeal to consumers across a range of trends."

Global applications that have successfully incorporated DuraBeet® include dietary supplements, functional beverages, functional health bars snacks, chewable gummies, and energy / sports drinks. In the US for example, betaine has been successfully integrated into an energy drink that claims betaine as a superfood extract, supporting hydration and physical performance.

As a free-flowing, white, crystalline ingredient, DuraBeet® can be easily incorporated into existing formulations or used as a standalone multifunctional ingredient. For example, it has been successfully used in recovery powders that also include vitamins, electrolytes, and caffeine, and also as a standalone food supplement powder, designed to be taken before exercise.

When it comes to dosages, studies have shown that best results can be achieved with between 1.5 g and 3 g daily intake. Because DuraBeet® delivers high bioavailability, formulators do not need to increase dosages, or mix betaine with other ingredients to achieve high functionality. For consumers, this means clean labels.



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## Key takeaways

- DuraBeet® is a natural, betaine-based ingredient designed to help manufacturers formulate natural, healthy products that tap into key consumer concerns.
- As an efficient osmolyte, betaine can play an important role in protecting cells, proteins, and enzymes.
- Increased levels of betaine in the diet could help lower homocysteine levels in the blood, thus reducing the risk of heart disease.
- DuraBeet® is sustainably sourced from GMO-free sugar beets of European origin and is manufactured using a Purley Physical Process.
- DuraBeet® is a pH-neutral ingredient, meaning it is perfectly compatible with other ingredients and has no impact on taste or stability.
- Interest in holistic health approaches that incorporate both physical and mental wellbeing are on the rise, creating new opportunities for brands.
- DuraBeet® offers manufacturers a key opportunity to tap into growing consumer demand for products that boost gut health.
- Betaine can aid physical, mental, and athletic performance through hydrating the body, improving power and endurance, and shortening recovery times.
- Potential global applications include dietary supplements, functional beverages, dairy-based applications, functional health bars snacks, chewable gummies, and energy / sports drinks.
- Agrana is an internationally oriented company that adds value to agricultural commodities to create natural GMO-free plant-based ingredients and is committed to sustainability.

## A brief overview of Agrana

Agrana is an internationally oriented Austrian industrial company that adds value to agricultural commodities to create natural GMO-free plant-based ingredients for a range of major brand names. There's a good chance that you've consumed a product today that include a natural Agrana ingredient. The business also delivers bespoke services and expertise in terms of product development for both global and regional players.

Agrana, which employs around 9 000 employees and operates 55 production sites around the world, is committed to sustainability. Low emission technologies are used, and the business is targeting zero waste, to protect the environment and to derive a 100% plant-based and GMO-free natural product. The business is therefore very much in line with the European Union's commitment to transitioning towards a circular economy.

### Order Your Sample Now!

Get in touch with us!  
Check out our website or connect with us to order you product sample.

**Please contact**  
**[salwa.bakr@agrana.com](mailto:salwa.bakr@agrana.com)**



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<sup>1</sup> [https://www.researchandmarkets.com/reports/5700874/betaine-market-global-industry-trends-share?gclid=CjwKCAjwpuajBhBpEiwA\\_ZffhR4uPoqZhnMBBgktDD7X59dhMTDwTDzrB75AQjanYPbz1Ik2K1puRxoCckcQAvD\\_BwE](https://www.researchandmarkets.com/reports/5700874/betaine-market-global-industry-trends-share?gclid=CjwKCAjwpuajBhBpEiwA_ZffhR4uPoqZhnMBBgktDD7X59dhMTDwTDzrB75AQjanYPbz1Ik2K1puRxoCckcQAvD_BwE)

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<sup>3</sup> <https://www.nutraingredients-asia.com/Events/Growth-Asia-Interactive-Broadcast-Series/Healthy-Ageing>

<sup>4</sup> <https://fmcggurus.com/tag/proactive-consumer/>

<sup>5</sup> <https://foodinsight.org/consumer-insights-on-gut-health-and-probiotics/>

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<sup>7</sup> <https://fmcggurus.com/blog/fmcg-gurus-the-growing-importance-of-cognitive-health/>

<sup>8</sup> <https://www.alliedmarketresearch.com/sports-nutrition-market>

<sup>9</sup> <https://pubmed.ncbi.nlm.nih.gov/15321791/#:~:text=As%20an%20osmolyte%2C%20betaine%20protects,the%20human%20liver%20and%20kidneys>

<sup>10</sup> <https://nutritionandmetabolism.biomedcentral.com/articles/10.1186/s12986-017-0233-z>

<sup>11</sup> <https://www.mountsinai.org/health-library/supplement/betaine#:~:text=Betaine%20%2D%2D%20also%20called%20betaine,an%20amino%20acid%20called%20homocysteine>

<sup>12</sup> <https://www.sciencedirect.com/science/article/abs/pii/S0014299921007603>



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Further information



- ✓ *Organic osmolyte*
- ✓ *Catabolic source of methyl groups*

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