

# Weight

management in a  
**GLP-1 world**

**Balancing mood**

**muscle and metabolism**

March 2026



# CO NT EN TS



## 3 VIEWPOINT

### Weight management deserves a holistic approach

Obesity rates are soaring, and the market for weight loss and management products is expanding rapidly. But achieving and maintaining a healthy weight is far from a one-size-fits-all journey, **Devon Gholam** submits.

## 5 CATEGORY EVOLUTION

### The changing conversation around muscle loss

From AI-discovered peptides to the enduring power of HMB and creatine, cutting-edge ingredients are helping to combat muscle loss, improve strength and support overall health. **Nick Collias** has the details.

## 12 INGREDIENT SELECTION

### Formulating for mental health through weight loss

Natural ingredients like saffron, lemon verbena, hibiscus and ashwagandha are not only boosting mood but also supporting weight management through mechanisms like appetite regulation, stress reduction and hormonal balance, **Rachel French** reports.

## 18 MICROBIOME

### 3 key biotic breakthroughs in weight management and metabolic health for 2026

With the rise of GLP-1 medications, **Nick Collias** contends the focus is shifting when it comes to biotic ingredients – from sheer numbers of live microbes to precision hero ingredients like *Akkermansia muciniphila*.

## 26 RESEARCH TOOLS

### Measuring food noise

Food noise – constant, intrusive thoughts about eating – is a challenge many dieters know all too well. **Sara Lovelady** reveals how the groundbreaking Food Noise Questionnaire is now giving researchers a way to measure this mental chatter.



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## Weight management deserves a holistic approach

**O**besity levels are at or near record highs, as are the emerging product options for weight loss and weight management. However, no one-size-fits-all approach exists for helping consumers achieve and maintain a healthy weight.

That's why I believe the dietary supplement industry should take a holistic approach to this ever-present product category.

I have a vested interest in this market segment. After all, I'm on my own health journey, which includes GLP-1 (glucagon-like peptide) medication as well as dietary supplements.

And I will tell anyone who will listen that many confounding factors are at play when it comes to weight and body composition. It's not just about diet or exercise. Sleep, mood, gut microbiome, hormones (hello, perimenopause) – a plethora of considerations can impact our weight.

That's why we took a holistic approach to our coverage of the topic in this digital magazine. Yes, there are many angles to take when developing weight-management supplements, like focusing on satiety, metabolism and glucose management.



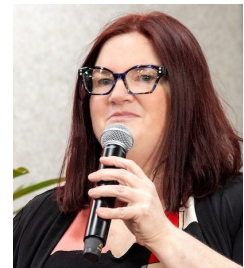
But we're going the extra mile to include ingredient categories that go beyond the basics. We're talking biotics, supporting muscle mass and how mental well-being has a role in physical health.



We're looking at clinical tools, like the newly developed Food Noise Questionnaire, which could impact the future trajectory of research on the efficacy of supplements.


I hope the insights in the following pages will spur you to think outside the traditional confines of weight management, to create products that encompass the whole of who we are.

Go make the world better, one great dietary supplement at a time!

Devon Gholam, Ph.D.  
EDITOR



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## The changing conversation around muscle loss

Here's how supplement brands can meet the growing demand for clinically supported ingredients to preserve muscle mass and strength, providing meaningful life improvement for everyone from GLP-1 users to aging populations.

by Nick Collias

For decades, “muscle” in health and nutrition largely meant size and strength. Want to track it? You’d use gyms or athletic performance labs (and, of course, the mirror). But that’s no longer the case.

“The whole idea of ‘muscle health’ has changed,” said David Foreman, N.D., a registered pharmacist and natural products consultant known as The Herbal Pharmacist. “And people are realizing that muscle loss isn’t just a fitness issue. It’s a public health issue.” Foreman saw the shift begin about seven years ago with the growing recognition of sarcopenia (age-related muscle decline) as a driver of frailty, mobility loss and hospitalization. Then came the GLP-1 (glucagon-like peptide) revolution that got everyone talking about muscle loss.


“When GLP-1s hit, the spotlight got huge,” Foreman said. “But the reality is, most people – including doctors – still don’t understand why that’s such a big deal. If you go in, you’ll still be told you just need to lose weight.”

[click to go!](#)



So ... why is it such a big deal? Frailty, loss of mobility and physical appearance are the most common answers – and they are all important. But muscle isn’t just mechanical or aesthetic tissue. It’s connected to everything in the body, from joint health to metabolism to blood sugar. “If someone is teetering on the edge of type 2 diabetes, adding a little muscle could be profound,” Foreman suggested. “It could be what keeps them off medication.”

For formulators and R&D teams, this invites a crucial question and an immense opportunity: What role can supplements play in stopping or slowing this process? Some options include tapping into the familiar all-stars of sports nutrition, leaning on new contenders like AI (artificial intelligence)-generated peptides or ... all of the above?



# 40-60%

The percentage of weight loss that can **come from muscle for GLP-1 users**. The risk of diminishing one's muscle mass **increases the leaner users become**.

—Diabetes, Obesity and Metabolism; June 2024

## GLP-1 medications changed everything ... but didn't provide answers

There's no doubt that the GLP-1 revolution has helped millions of people to lose weight. But [studies](#) indicate it comes at an immense cost in terms of muscle mass – to the tune of 40-60% of the total weight loss.

That much is increasingly well-known. What isn't talked about nearly enough, according to Foreman, is the more successful users are with weight-loss drugs, the higher that percentage rises. "A leaner person following a calorie-restricted diet loses a larger percentage of lean mass than an obese person doing the same diet," he explained.

In other words, the further the global GLP-1 experiment goes, the more users will feel the consequences of muscle loss. And GLP-1 users are so diverse, it can be hard to even study how or why it's happening.

Shawn Baier, senior director and COO at ingredient supplier and contract manufacturer TSI Group, noted, "One might be young and overweight – or even just a few pounds over their 'ideal weight' – and they're using the drug just because of the trend. And on the other side of the spectrum, we might have somebody who's extremely obese, maybe in their 60s or 70s, maybe even immobile."

Further complicating the issue: Normal age-related muscle loss begins around age 35 for men and women and intensifies for women during perimenopause and menopause. "Honestly, 100% of the population over the age of 35 is experiencing muscle loss," Baier pointed out. What's more, millions of people might be experiencing it on all three fronts.

That's the bad news. The good news is that the most effective supplemental interventions, for now, appear to be similar for all three populations.

Foreman said, "Ultimately, muscle protein synthesis [MPS] is muscle protein synthesis. Whatever is triggering muscle loss ultimately doesn't matter as much as simply asking, 'What can we do to stop it?'"

## Peptistrong: A new type of protein innovation

Peptides are having a moment. Once mostly associated with pharmaceutical (or GLP-1s) or cosmetic applications, they're now being positioned as tools that can help regulate muscle health.

One standout is Peptistrong, a faba-bean-based peptide complex identified using AI by biotech peptide specialist Nuritas. Unlike traditional proteins that rely on bulk amino acid delivery, peptides take aim at the on-off switch of the pathways themselves.

Andy Franklyn-Miller, Ph.D., a sports medicine physician and chief medical officer for Nuritas, indicated that one role peptides can play is to mimic signaling activity. "We want to be able to up-regulate MPS, down-regulate breakdown,

# The GLP-1 Landscape

## ACT EARLY

Natural solutions to support metabolic health and weight balance, promoting a healthy state before more intensive measures are required.



## A BROADER STRATEGY FOR WEIGHT MANAGEMENT

## SUPPORT WHEN NEEDED

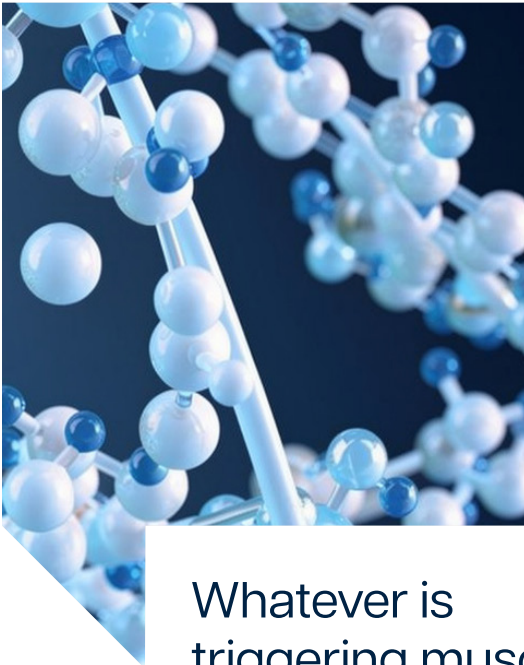
Targeted botanical support for optimal digestive comfort, energy, skin, hair, and glucose metabolism during intensive weight-loss programs, including GLP-1 use.



## MAINTAIN FOR LONGER

Science-backed support for long-term weight stability to help maintain results.





Whatever is triggering muscle loss ultimately doesn't matter as much as simply asking, 'What can we do to stop it?'

remove some of the inflammation and soreness associated with activity, and then up-regulate mitochondrial ATP [adenosine triphosphate].”

That's a laundry list of functions, but a series of studies is starting to back it up. [One early trial](#) in 2023 involved immobilizing the leg of healthy young men for a week – a reliable way to rapidly induce muscle loss. The group taking Peptistrong saw preservation of muscle and strength, but also MPS well beyond a control group taking 20 g of milk protein. [Later studies](#) in healthy men and women found significant gains in strength, recovery and rate of force development, even when protein intake was otherwise matched. One unexpected bonus: an increase in bone mineral density.

Peptistrong has made quick inroads into sports nutrition, often combined with creatine and/or HMB (hydroxymethylbutyrate). Franklyn-Miller said these pairings make perfect sense, and that Nuritas just submitted a new study for publication looking at how Peptistrong functions alongside or in comparison to those big names, in addition to leucine. This research, he predicted, could show that Peptistrong's greatest potential is in populations at risk of muscle loss.

“There was a particularly good effect in older cells, where protein alone no longer works as well,” he mentioned of the forthcoming study. “But we saw the peptides are also not competing with HMB or with creatine. They're working different ways, and so the combinations of much smaller doses of both appear to be synergistic and create a superior effect.”

Besides this ingredient-focused research, Franklyn-Miller advised the year to come will also see a collection of case studies of Brazilian GLP-1 users taking Peptistrong, and additional research into elderly subjects without strength training. He added that the ingredient has also become highly sought-after in the U.K. and mainland in enriched foods, including chocolate, cookies and other popular staple foods.

**Dose: 2.4 g daily**, often paired with protein, HMB, creatine or amino acids.

### **HMB: The foreman of the construction site**

A leucine metabolite, HMB has long been known in the athletic world. But Baier has also been studying it in the context of muscle preservation for over 20 years and has seen an immense resurgence of interest and products in response to GLP-1s. What conversations about HMB often miss these days, he said, is that it's not a protein or amino acid analog. It's also a potent signaling molecule.



After taking **creatine** and **HMB**, either individually or together, aging users reported that **they have more energy.**

---

“I explain it like a construction site,” he shared. “The building supplies are the amino acids, and you have to have a foreman in there saying, ‘OK, tear this part down, but don’t tear down too much. Now build that part up.’ That’s HMB.”

The key – and the possible limitation in research that appeared to show little to no benefit – is that HMB needs a strong stressor in order to work. That can be intense training in younger people, or intense caloric restriction in GLP-1 users. “Aging can also be the stressor,” Baier stated. But in studies when it has one – or multiple – of these stimuli, HMB has shown benefits in recent research like:

- [Enhancing the effects of resistance training in older adults.](#)
- [Boosting strength and improving body composition](#) when combined with creatine for older adults.

However, some researchers have concluded that HMB’s effectiveness for age-related sarcopenia may be [dependent on a user’s vitamin D status](#). This makes a strong case for combining the two in formulas.

**Dose:** Because of its functionality as a signaling molecule, HMB doesn’t necessarily benefit from a higher dose for most people, Baier stated. “It’s

more about hitting the sweet spot,” he said. The majority of research points to 38 mg per kg of body weight, or 3 g for most people.

**Branded variation:** [myHMB](#)

### **Creatine: Preserving muscle through movement**

The New York Times threw a wrench in the muscle-loss conversation recently with the headline, “Forget About Muscle Mass as You Age. Focus on Strength.” This either/or mindset ultimately serves to confuse what muscle health really means to aging and at-risk populations, according to Baier.

“It’s always on a spectrum,” he shared. “If you’re losing muscle, you’re losing strength and function. You’re losing muscular endurance and cardiovascular endurance. You’re losing everything. But if you maintain strength and power, you’re also keeping muscle mass and function.”

But the in vogue “strength and power” focus is also where creatine monohydrate shines. While carrying a muscular connotation culturally, it is most researched for fueling short, intense activities ranging 8 to 12 seconds, using the ATP-CP (creatine phosphate) system. That means it has a [profoundly synergistic](#)

## Category evolution

[relationship with resistance training](#) – but in the populations most at risk for muscle loss, what qualifies as “resistance training” can be a low bar.

“For one person, that can mean harder workouts. But for another older person, it could just be a walk in the park or playing with grandkids. If I optimize that ATP-CP system, I’ll have healthier, better functioning muscle,” Baier said. “And I’m still going to have some kind of adaptation occurring.”

Baier suggested this mindset of “helping improve movement for muscle” represents the biggest opportunity for both creatine and HMB. And it matches up with what aging users have reported after taking creatine and HMB, either individually or together: They have “more energy.”

“When we ask them what that means, they say, ‘I can walk up the stairs. I can carry my groceries,’” Baier clarified. “So, they’re not talking about ‘energy.’ They’re talking about muscular strength.”

**Dose:** While an increasing amount of research is pointing to the value of higher-dose creatine (10 g/d or more) for cognitive benefits, the current recommendations hold firm for muscular benefits: 38 mg/kg of body weight, or 3-5 g/d for most people.

**Branded variations:** [Creapure/Creativitalis](#), [OptiCreatine](#) ■



Nick Collias is a writer and editor with over a decade of experience working in the health and fitness industry. From 2016 to 2021, he was the host of the Bodybuilding.com Podcast, and he has worked for the last 20 years as a longform print and online journalist, as well as a book author, ghostwriter and editor.

## Weight loss is more than a **number**

When the numbers on the scale go down, what exactly is changing? The latest chatter around GLP-1 medications suggests that many people taking these drugs are losing too much muscle mass. However, a decrease in muscle mass is completely normal during profound weight loss.

A recent study on the [impact of GLP-1 drugs on weight-loss composition](#) noted 20%-40% of the weight loss that patients experienced was fat-free mass, which includes muscle and skeletal mass. This range largely overlaps with [lean body mass lost during other types of diets](#), such as low-calorie or low-fat diets. In fact, 25% was the average percentage across most diets for lean body mass lost, with the remainder from fat mass loss.

– Devon Gholam





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## Formulating for **mental health** through weight loss

by Rachel French

Key ingredients can be formulated for mood and metabolism support, on the journey and after.

**T**he connection between mood and weight loss is gaining traction, with more consumers and health professionals recognizing that improving mood and other parameters of mental well-being can translate to healthier waistlines.

“Mental and emotional well-being play an important role in weight management by influencing everyday behaviors related to eating, activity and consistency,” Mariana Ortega-Rufino, science marketing manager at ingredient provider Suannutra, explained. “Stress, low mood and mental fatigue [can affect](#) appetite cues, food choices and motivation to maintain healthy routines.”

[click to go!](#)

The effects can be physiological, too. Per Ortega-Rufino, stress [can influence](#) hormonal pathways involved in appetite and energy balance. Looking at behaviors, stress [can lead to](#) emotional eating and reduced adherence to healthy lifestyle habits.

For these reasons, consumers are increasingly adopting a more holistic view of weight management that goes beyond calorie restriction, she said.

“This shift is driven by a growing awareness that long-term success depends on sustainable habits, emotional balance and daily motivation,” Ortega-Rufino maintained. “Many consumers report fatigue with

## Research supports the benefits of **lemon verbena** and **hibiscus extract** on mood-related behaviors and perceived well-being.

restrictive approaches and are looking for solutions that support appetite control, energy levels and a positive relationship with food.”

The result is more focus by consumers on products that are positioned around balance, well-being and lifestyle, “as they better align with how consumers define ‘healthy’ today,” she said.

### **Mood-boosting, waistline-reducing natural ingredients**

The supplement industry has in its arsenal a number of ingredients that support mood and well-being. What’s more, a growing number of these ingredients are being clinically studied for effects on weight, too.

Saffron, a spice derived from the flower of *Crocus sativus*, is well-documented for its potential benefits to mood and well-being. In fact, Steve Fink, VP of marketing at ingredient supplier PLT Health Solutions, said his company’s Supresa Crave Control – an extract of saffron stigmas rich in safranal, crocin and picrocin – falls “squarely” in the “emotional support area” of weight loss.

“Supresa does not act to promote a feeling of ‘fullness,’” he explained. “Rather, it induces a feeling of well-being and stress reduction over

time to address the source of stress-related overeating and snacking.”

Per one [study](#) of 60 healthy, slightly overweight women between 25-45 years old, intake of Supresa for eight weeks resulted in significantly greater body weight reduction, as compared to placebo. The ingredient also led to decreased snacking by 55% and decreased appetite by 69%, compared to reductions of 28% and 54%, respectively, in the placebo group.

Providing weight-management support via a multipathway, nonstimulant mechanism is a proprietary combination of lemon verbena (*Lippia citriodora*) and hibiscus (*Hibiscus sabdariffa*) extracts, Metabolaid by Suannutra. The ingredient is standardized in specific polyphenols such as

verbascoside and anthocyanins.

One way Metabolaid works is via changes in appetite-related hormones, including GLP-1 (glucagon-like peptide). According to a [clinical study](#) of 54 overweight subjects over a 60-day period, Metabolaid increased GLP-1 by up to 61% at two months, compared to placebo. The ingredient also improved satiety perception and reduced energy intake.



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Additional studies validate Metabolaid's ability to [support normal energy metabolism](#) and to [improve body weight, body fat and anthropometric parameters](#) when used as part of a healthy lifestyle, without requiring restrictive dieting.

Ortega-Rufino also pointed to research supporting the benefits of the lemon verbena and hibiscus extract on mood-related behaviors and perceived well-being. She cited a [trial](#) that showed participants who supplemented with Metabolaid reported a more positive perception of overall health and vitality, as assessed through a validated quality of life (QOL) questionnaire.

"These improvements occurred alongside enhanced satiety and appetite regulation, reinforcing the link between physiological balance and how people feel day to day," she explained.

Recent research evaluated the effects of a standardized powder of *Dichrostachys glomerata* (DYG-400 by Gateway Health Alliances) on weight, food cravings, mood and health-related QOL.

## SPOTTED



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## Targeting GLP-1 consumers

**T**he growing weight-management market has the trendy Target brand expanding shelf space this year for supplements and protein-rich items like nutrition bars.

Lisa Roath, Target's chief merchandising officer of food, essentials and beauty, told [FOX Business](#) that customers are looking for supplements to fill nutritional gaps, as well as chasing the hot high-protein and high-fiber trends.

At Target, changes go beyond food aisles, as areas such as athletic wear and home-fitness experience growth, too.

Opportunity will only multiply as GLP-1 pill formats gain use.

GlobalData's Pharmaceutical Intelligence Center predicted this format will increase from \$3.2 billion in 2025 to \$34.3 billion in 2031, representing a compound annual growth rate (CAGR) of 48.4%.

Retail implications provide food for thought for supplement makers.

### **The view:**

With fundamental shifts in eating occasions and dietary (*not "diet"*) support needs, expect new merchandising categories to emerge.

– Christine Kapperman

## Ingredient selection



Per the 60-day [trial](#) of 56 overweight and mildly obese adults, the ingredient reduced food cravings and improved perceived stress, mood, anxiety and health-related QOL. Subjects who took the nutritional powder lost significantly more weight at day 60, compared to placebo – 4.11 lbs. compared to 2.19 lbs., respectively. Food cravings also significantly reduced compared to placebo at 30 and 60 days of supplementation.

More new research evaluated the potential of an adaptogenic herb well-known for its benefits to mood – ashwagandha (*Withania somnifera*) – to support weight loss. Researchers of the [2025 review](#) of 51 studies noted ashwagandha's ability to support weight loss via reduced stress, cortisol and food cravings. "Preclinical studies also suggest that ashwagandha possesses the capacity to regulate food intake by improving leptin and insulin sensitivity, and reducing addictive behaviors through dopamine regulation," the authors wrote. ■



Rachel French initially joined Informa's Health & Nutrition Network in 2013. Her career in the natural products industry started with a food and beverage focus before she transitioned into her role as managing editor of SupplySide Supplement Journal (formerly Natural Products Insider), where she covered the dietary supplement industry. These days, French serves as a staff-favorite freelancer.

## Mental health matters

Mental health is such an important topic that it deserves its own magazine. That's why SupplySide Supplement Journal dedicated an entire digital issue to [ingredients supporting mental and emotional well-being](#).

To keep up on new developments for mental wellness, visit [SupplySideSJ.com](#) and subscribe to the newsletter to get headlines delivered straight to your inbox.

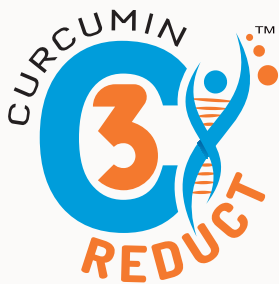


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## 3 key **biotic breakthroughs** in weight management and metabolic health for 2026

Here's how to navigate *Akkermansia*-mania, give GLP-1 users something they actually need, and the new biotic 'diversity' that's about to catch fire.

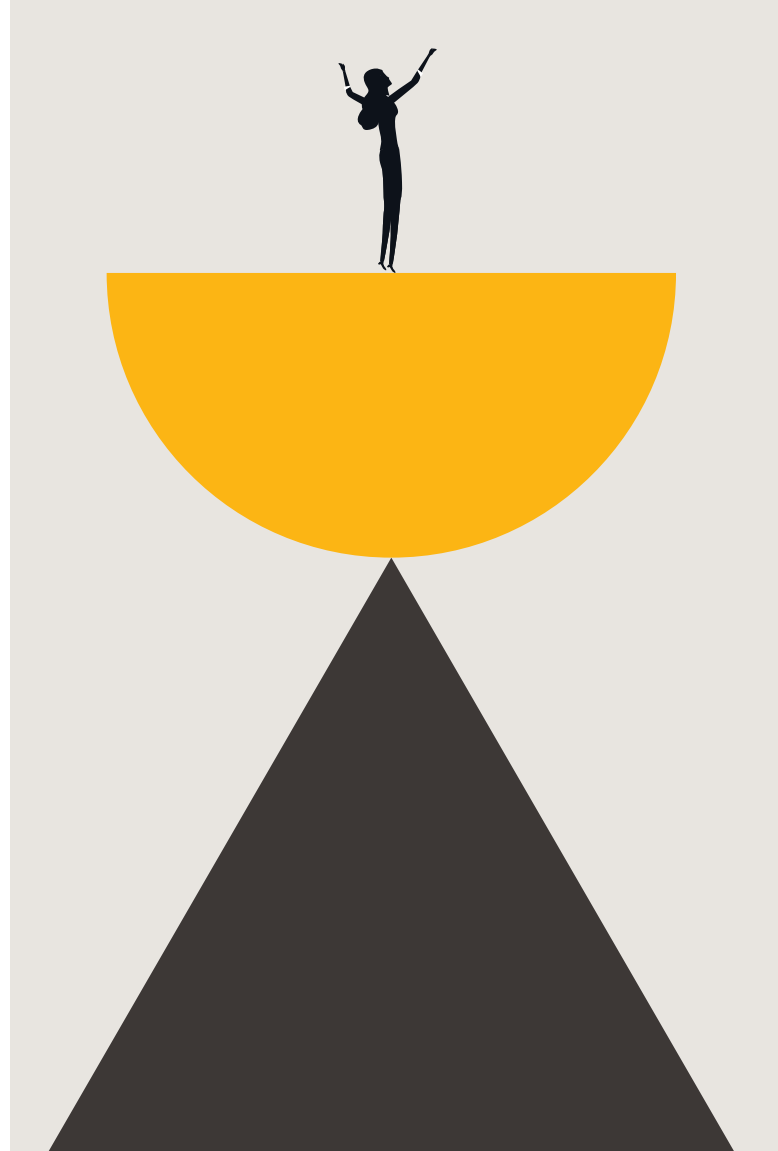
by Nick Collias

**F**ew areas of supplemental nutrition are undergoing a change as dramatic as biotic ingredients. The whole philosophy around why, how and how much consumers should use probiotics, prebiotics and postbiotics is being reevaluated. And like every other part of nutrition right now, the GLP-1 (glucagon-like peptide) wave has a lot to do with it.

According to many experts, a broad-stroke focus on zillions of billions of live microbes is out. Hero ingredients like *Akkermansia muciniphila* are in (not to mention, showing up in everyone's social media feed). Substrates and tough (or dead) probiotics are also in ... although biotic marketing hasn't necessarily caught up yet. And the weight-control mainstay of fiber is hipper than ever, but on the verge of a big redefinition.

"My view has evolved from seeing biotics as a stand-alone solution, to tools that can only work when the fundamentals are right," explained Kéra Nyemb-Diop, Ph.D., senior scientist of digestive and metabolic health at Haleon, providers of the prebiotic ingredient

click to go!



Benefiber. "Earlier in the field, there was a lot of focus on big numbers. High CFU [colony-forming unit]. Multiple strains. Broad claims. And I think over this time, the science has pushed us toward more precision."

Yes, there's still a place for diversity, but finding where that is – especially for users seeking weight management – is complicated. Here's what brands and product developers need to know about biotics now.

### **Akkermansia is a big opportunity ... with some potential pitfalls**

*Akkermansia muciniphila* is without a doubt the hero ingredient of the moment, with a blitz of marketing increasing consumer awareness of its links to [improved blood sugar markers](#),

# 81%

Consumers, when given the definition of postbiotics and probiotics, who agreed that **both could offer the same benefits.**

- Source: ADM Outside Voice, Postbiotic Consumer Perceptions, 2024

[weight loss](#), [sleep](#), [higher GLP-1 levels](#) and more. But this explosion has sparked a dialog that, according to some experts, doesn't help consumers or the industry.

A recent widely promoted online ad features a health influencer talking with a famous actress about how *Akkermansia* is a beneficial strain with levels [that tend to drop as estrogen levels drop](#) – i.e., for women during perimenopause. So far so good.

Then things get weird. “They’ll tell me about whatever one they’re on, and I’ll say, ‘but they don’t have *Akkermansia*,’” the actress shared of her interactions with (presumably) the general public. “They say, ‘It is! It’s on the bottle.’ And I say... ‘BUT IT’S DEAD!’”

So, what’s the problem? There are many, and every brand should be aware of the main ones as *Akkermansia*-mania rises to peak levels.

SPOTTED

## The WHO view

In late 2025, the World Health Organization (WHO) recognized GLP-1 (glucagon-like peptide) / GIP (glucose-dependent insulintropic polypeptide) dual receptor agonists (RAs) as essential and identified them as but one part of a holistic treatment plan to combat obesity and address comorbidities such as cardiovascular disease (CVD).

WHO noted these therapies are typically the first effective treatment for adults with obesity but said these therapies alone cannot solve the problem. The agency emphasized a comprehensive strategy with three pillars: promoting healthier environments; targeted early interventions; and lifelong, person-centered care.

Conditional recommendations include GLP-1 use for long-term obesity treatment, and intensive behavioral interventions along with healthy diet and physical activity to enhance outcomes.

High costs, limited data on long-term efficacy and inequitable access remain challenges, according to the report. WHO continues to advocate for fair pricing and improved availability, especially in underserved areas.

### The view:

Growing demand – and support – for GLP-1 use presents increased opportunity for the dietary supplement industry to innovate for both behavioral and metabolic health long term.

– Christine Kapperman





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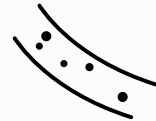
One published human clinical shows krill oil has been shown to increase muscle mass and grip strength.

### SUPPORTS MUSCLE RECOVERY



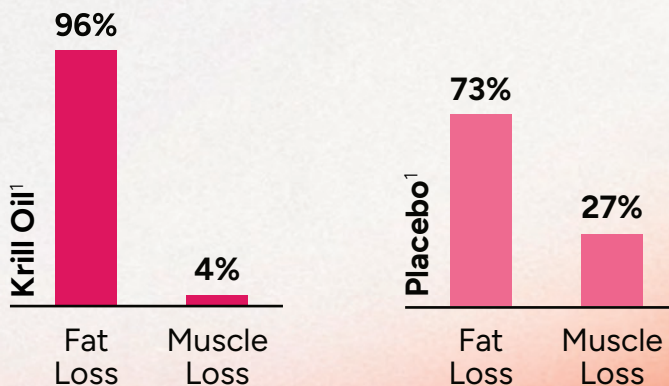
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Multiple published human clinical trials show that krill oil supports healthy fat levels for optimal heart health and everyday wellness.

## Alblaji 2025: Krill Oil's Benefits On Muscle Health While Fasting



### Key Significant Krill Oil Benefits vs Placebo:

- Maintained fat-free mass |  $p < 0.05$
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<sup>1</sup> Alblaji M. et al. Benefits of krill oil supplementation during alternate-day fasting. Obesity. 2025

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89%

Consumers who agreed **they would try postbiotics** if they could provide the same health benefits as probiotics.

- Source: ADM Outside Voice, Postbiotic Consumer Perceptions, 2024

### 3 *akkermansia* fact-checks

#### 1. The “live” benefits are marginal at best.

*Akkermansia* probiotics and (inactivated) postbiotics have been studied side by side a number of times. In [one clinical study of 130 overweight adults](#) from 2025, both versions significantly reduced weight, body fat and body mass index (BMI) compared to placebo. The live version was superior at some measurements, but not by much – an outcome echoed in other studies. On the flip side, in some [early human studies](#) and [animal studies](#), the postbiotic actually outperformed the probiotic in its effect on glucose tolerance and metabolic regulation.

Both the *Akkermansia* probiotic and postbiotic have shown to work by the same mechanisms of action: triggering mucin production to reinforce gut lining, producing short-chain fatty acids (SCFAs) like butyrate, and stimulating GLP-1 production and other regulators of appetite and insulin sensitivity.

In other words, both work – and the science supporting the postbiotic is growing. So “dead” isn’t a legitimate critique at this point.

Kyle Phelps, product development manager at ingredient supplier Kaneka Probiotics, noted, “The live version is great, but [the postbiotic] really has just a bit more in terms of the measurables and efficacy.” Kaneka recently launched its own *Akkermansia* probiotics

and postbiotics, which Phelps acknowledged simply provides more options for the market: “It’s a question for consumers and brands. Is the juice worth the squeeze? Is it worth the ease for the consumer?”

**2. “Live” *Akkermansia* might not be alive after all.** “*Akkermansia* is an anaerobe, so it’s very hard to keep alive, which is a big reason why the postbiotic gets studied,” Phelps stated. “The postbiotic is far easier to produce and manufacture. It’s also easier for the consumer to keep in their cupboard.”

Pushing an “alive or bust” narrative also limits the options that the probiotic strain can go in, including all the formats that consumers experiencing “pill fatigue” are eager to try. Regarding postbiotics, Divya Mohan, director of creation, design and development at ingredient provider ADM, noted, “Since they don’t contain living microorganisms, they can withstand challenging formulation environments (high heat, high moisture), don’t require refrigeration and maintain efficacy over shelf life. With postbiotics, brands can meet people where they are and support gut and metabolic health as part of a broader wellness journey.”

*Akkermansia* producer Maypro mentioned gummies, melts, stick packs, and functional foods and beverages as all being popular fits

## Microbiome

for the postbiotic version of the company's proprietary strain AKK Probio, which won the [2025 Ingredient Idol Award](#) for Weight Management at SupplySide Global.

**3. The name game:** *Akkermansia* has become a one-name celebrity online, and the ad in question refers to it that way. But the A-word is actually only the genus. *Muciniphila* is the specific species, and research identifying additional strains or subspecies is in its infancy.

Phelps agreed, "There will come a time when there are other *Akkermansia* species that become commercially available with clinicals tied to them. It's going to get very muddy and create some confusion if the entire consumer perception continues to be '*Akkermansia* gives the benefit.'"

### GLP-1 users: What biotic do they really want or need?

[Consumer research by ADM](#) found that nearly 4 in 10 GLP-1 users have intentionally increased their intake of prebiotics and postbiotics. Studies of [users' grocery shopping habits](#) showed similar preference to probiotic foods like yogurt. This is likely due to concerns around gastrointestinal (GI) distress and constipation, two classic biotic marketing lines that, according to Nyemb-Diop, continue to ring as true as ever.

"These consumers don't wake up wanting more 'microbiome diversity.' They want things like a predictable and comfortable bowel movement," she maintained. "So, to me, clarity around the purpose and how people connect with those benefits will continue to be a way to win."

Another way to win is to provide digestive benefits in a small dose. The rise of GLP-1s has pushed prebiotic manufacturers to search out smaller effective doses that provide benefits while being gentle on the stomach.



## Biotics for a BM

Constipation is one of [the most common](#) and longest-lasting side effects of GLP-1 usage, and is a perfect target for precision biotics. One promising study from 2025 came from Specialty Enzymes & Probiotics, whose *Bacillus coagulans* LBSC ingredient SEBiotic [helped](#) 98% of subjects resolve constipation symptoms within 35 days.

As a spore-forming probiotic, it can survive high heat and work in traditionally probiotic-unfriendly formats. Spores are an increasingly popular middle ground between probiotics and postbiotics.



Taylor Davis, marketing manager at ingredient provider Comet Bio, pointed to the company's arabinoxylan-based prebiotic Arrabina, which she claimed was tested at dosages up to 15 g with no difference from placebo in gas or bloating. "But the effective dose is just 3.6 g," she shared. "That gives people a buffer, even if they eat multiple products in a day."

With a GLP-1 user in particular, smaller doses of fiber can also help to maintain appetite – or at least, not further decrease it beyond what the medication is already doing. And it also pushes brands to think beyond fiber as a "scoop" and lean into fiber-fortified snacks like gummies or brownie bites.

Phelps called out a third under-recognized benefit that emerging biotics like *Akkermansia* can have – helping to maintain health markers for those further along in their GLP-1 journeys.

"It currently has big appeal for people saying, 'I just want to lose 15 pounds or lose 2 inches,'" he said. "But if you're already thin or have been

taking a GLP, it's not a strain that's going to cause you to lose more weight. It's going to support those key metabolic markers: the [A1C](#) and [blood glucose levels](#)."

### Does diversity still have a place?

Nyemb-Diop said she and many other scientists have done a 180 on their view of where biotic "diversity" should fit in the priorities of consumers and brands, both in general and for metabolic health. Instead of pushing direct-intake microbial diversity, she predicted, the new market for diversity will be within fiber, where "Are you getting enough of it?" is turning into, "Are you getting enough of it from enough different sources?"

"Fiber diversity is absolutely as important as probiotic diversity," Nyemb-Diop asserted.

This message has also begun to influence formulation, as prebiotics like Arrabina offer diverse nutrient profiles combining fiber with beta-glucans and polyphenols. Davis noted,



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## How to navigate GLP-1 supplement claims and compliance

Regulatory scrutiny increases as GLP-1 interest and supplement claims increase. Here's what marketers need to know to avoid running afoul of supplement regulations.

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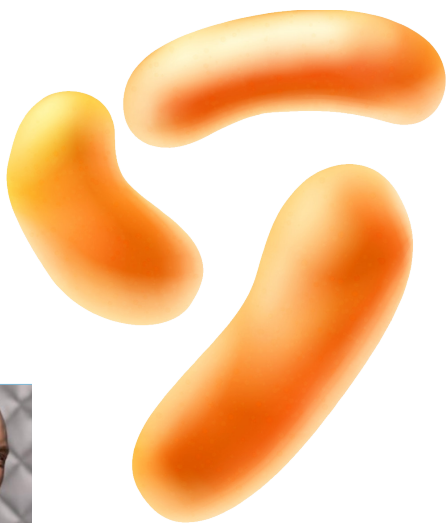


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“People often still think, ‘Fiber is fiber.’ But if you’re only feeding your gut one type of prebiotic, only a few strains of bacteria are benefitting. That’s why diversification is so important.”

A focus on diversity can also lead to what Nyemb-Diop believes is perhaps the major future selling point of fiber: longevity through improved metabolic health.

“I don’t see enough people doing work on this, but fiber can be a very powerful ingredient for longevity,” she explained. “We have research showing how [low] fiber intake can be related to mortality. The science is strong. We’ve been talking about ‘gut health’ for many years, and it doesn’t seem to resonate with people. It’s time to talk about fiber in another way.” ■



Nick Collias is a writer and editor with over a decade of experience working in the health and fitness industry. From 2016 to 2021, he was the host of the Bodybuilding.com Podcast, and he has worked for the last 20 years as a longform print and online journalist, as well as a book author, ghostwriter and editor.

## What are **probiotics**, **prebiotics** and **postbiotics**?

The word “biotics” is making the rounds in the dietary supplement industry. This term refers to a class of ingredients that include probiotics, prebiotics and postbiotics.

**Probiotics** are [defined by the International Scientific Association for Probiotics and Prebiotics \(ISAPP\)](#) as “live microorganisms that, when administered in adequate amounts, confer a health benefit on the host.” This includes beneficial strains of bacteria and yeast.

A **prebiotic** is [defined by ISAPP](#) as “a substrate that is selectively utilized by host microorganisms conferring a health benefit.” Historically, prebiotics were mainly fiber, but emerging evidence suggests certain polyphenols also exhibit prebiotic activity.

The definition of **postbiotic** has been the subject of debate in recent years. [ISAPP defines a postbiotic](#) as a “preparation of inanimate microorganisms and/or their components that confers a health benefit on the host.”

However, [questions surrounding metabolites](#) and whether they should be part of the definition have arisen. According to ISAPP, metabolites in the absence of biomass are not considered postbiotics.

Occasionally, terms like “heat-inactivated probiotic,” “heat-treated probiotic” or “paraprobiotic” appear in scientific literature, but postbiotic is the most commonly used language to refer to inactivated microbes that provide a health benefit.

– Devon Gholam

# Measuring **food noise:** How a new **validated** **questionnaire** could shape supplement research

by Sara Lovelady



**It's a phenomenon almost every dieter is familiar with: the constant, intrusive thoughts about food that hijack the mind – like what to eat, how much to eat and when to eat again – even when hunger isn't present.**

Known as food noise, this mental chatter can derail even those with the best of intentions.

One of the commonly reported benefits of GLP-1 (glucagon-like peptide) receptor agonists (RAs) is that they decrease food noise, making it easier to avoid temptation and overeating. Until recently, however, there hasn't been a reliable way to measure changes in food noise. That's changed with the development of the Food Noise Questionnaire (FNQ), a new clinically validated tool that allows researchers to assess whether other interventions – such

as dietary supplements – can reduce food noise in ways similar to GLP-1 RAs.

## About the questionnaire

Developed by a group of researchers from several universities and institutions, the FNQ measures food noise using five statements that respondents rate on a scale of 0-4 – with 0 being “strongly disagree” and 4 being “strongly agree” – such as “I find myself constantly thinking about food throughout the day.”

It's not the first food noise assessment ever developed, but it's the only one that's been put to the clinical test, recently having been validated in a [clinical trial](#) analyzing data from nearly 400 participants. That proof of legitimacy is important. “It's always better to

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The **mental chatter** of **food noise** can derail even those with the best of intentions.

have a validated survey,” Sue Hewlings, Ph.D., co-founder of consultancy Substantiation Sciences, explained. “Otherwise, how do you know you’re measuring what you think you’re measuring?”

The study found the questionnaire was highly reliable, yielding similar results when participants completed it again a week later. With this newfound ability to compare participants’ food noise scores before and after an intervention, scientists now have another tool in their weight-management research toolbox.

### Implications for dietary supplement research

A major appeal of using the FNQ to study dietary supplement ingredients is that satiety and appetite only cover so much ground as clinical endpoints; they measure an acute physiological state. But eating behavior is also governed by psychological drivers, which have historically been undermeasured.

“There’s so much more that goes into why people overeat than just whether or not they’re full,” Hewlings explained. That’s the rub with food noise – for some people, it’s always there, whether they’re hungry or not.

## Muscle-preservation contenders need more research

**T**wo ingredients have shown robust responses in muscle protein synthesis (MPS) research but haven’t been studied as much for atrophy prevention – yet.

**Dileucine:** A number of recent studies concluded this new peptide can boost [MPS](#) and “[whole body anabolism](#)” far beyond leucine alone, following resistance training. It hasn’t been backed up for aging or calorie-restricted subjects yet. However, dileucine has quickly become a popular ingredient pairing alongside HMB (hydroxymethylbutyrate), creatine and/or Peptistrong.

**Fish oil:** Fish oil? Yes, fish oil. Studies have shown that eight weeks of omega-3 supplementation boosted MPS both in [older people](#) and [healthy young populations](#). A [more recent study in 2022](#) found significant increases in a wide range of strength and size measurements in older adults who were taking krill oil for six months. Omega-3 supplementation has also shown protective effects against atrophy in [animal models](#) and a few [human studies](#).

– Nick Collias



## Research tools

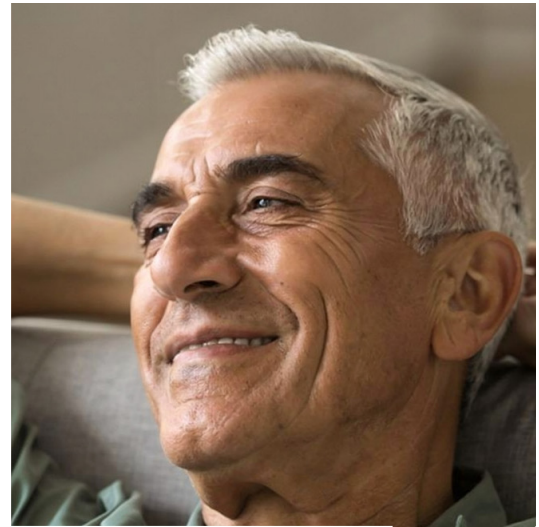
Feeling full won't necessarily make them eat less, but turning down the dial on constant mental chatter might, which could ultimately support weight management.

This distinction resonates with people who have experienced food noise firsthand. According to Sarah-Marie Cole, founder of Smack Marketing Collective, "When you don't have that constant draw – that constant voice of food – it just makes everything easier. You're not eating because you're hungry; you're eating because of what your body needs for health."

Food noise could also be a meaningful outcome to study apart from traditional measures such as body weight. Hewlings noted it may be linked to other factors, including sleep disruption, stress and negative mood states. She was quick to point out, though, that correlation isn't the same as causation. "But correlation can help us generate hypotheses for what might be causing it," she explained.

Hewlings also suggested that leaning into food noise could help researchers dig into some of the more vexing questions in weight management, such as why some people succeed while others struggle, or why some individuals maintain weight loss while others don't.

The impact of food noise on mental well-being should also be considered. It's not the same as routine food-related thoughts; food



**Reducing  
food noise can  
meaningfully  
improve  
quality of life.**

noise is intrusive, persistent and unwanted. For individuals suffering under its burden, reducing food noise could meaningfully improve their quality of life (QOL), even if they don't lose an ounce of weight.

Dietary supplements will likely never reproduce the dramatic weight-loss effects of GLP-1 drugs. But if they can help lower food noise, then perhaps they can carve out a distinct and complementary role in the weight-management landscape.



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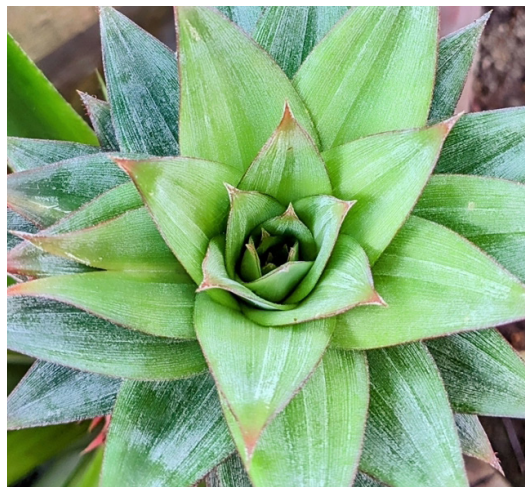
### **Herbalife bucks GLP-1 trend with new fat-burner supplement**

Herbalife has avoided the GLP-1 bandwagon with a weight-management supplement based on three branded botanical ingredients.

### Ingredient candidates

At this stage, no publicly indexed, peer-reviewed clinical trials exist on dietary supplement ingredients using the FNQ as an outcome measure. Looking ahead, Hewlings believes a multi-ingredient formula could be an ideal starting point, given the multidimensional nature of eating behavior.

When it comes to single ingredients, she has her eye on [apple cider vinegar](#), [fiber](#) and [bromelain](#) as potential candidates. Already studied for their effects on glucose metabolism, satiety and digestion, these ingredients may influence eating behavior beyond hunger alone – making them viable contenders for exploratory research using the FNQ. ■



Sara Lovelady, aka "[Wordgirl](#)," is a copywriter and journalist with more than 30 years of experience in the dietary supplement industry. She has authored numerous articles for consumer-focused as well as industry trade publications, alongside copywriting for some of the industry's top brands and ingredient suppliers.



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