



October 2025 Nutrition News

New Probiotic Demonstrates its Ability to Reduce Bloating

Nutrition Strategies to Promote Sleep in Athletes

Lactoferrin in Action: From Structure to Application

Leucine-Enriched β -Lactoglobulin vs Whey Isolate on Muscle Protein Synthesis

Supplement Containing Whey Protein Shows Improvement in PMS Symptoms

+ More

New Probiotic Demonstrates its Ability to Reduce Bloating



BV379 is a recently FDA-approved spore-forming strain of *Bacillus velezensis*, selected for its secretion of digestive enzymes, including non-starch *polysaccharidases*. A randomized, double-blind, placebo-controlled trial evaluated the safety, tolerability, and gastrointestinal (GI) effects of *Bacillus velezensis* BV379 in healthy adults with mild digestive symptoms. Eighty participants consumed either BV379 (2×10^9 CFU/day) or placebo for 8 weeks. A post hoc analysis of a two-symptom composite (bloating/distention and burping) showed a trend toward improvement in the BV379 group ($p=0.087$).

BV379 was well tolerated, with no serious adverse events reported and no clinically meaningful changes in blood chemistry, hematology, insulin, or intestinal permeability. Weekly GI symptom scores and adverse event profiles indicated no safety concerns. Fecal metagenomic analysis showed no disruption to overall microbial diversity, and BV379 was detected in over half of supplemented participants, accompanied by modest enrichment of several commensal bacterial species. These findings support the safety of BV379 and suggest its potential to alleviate abdominal bloating in healthy adults.

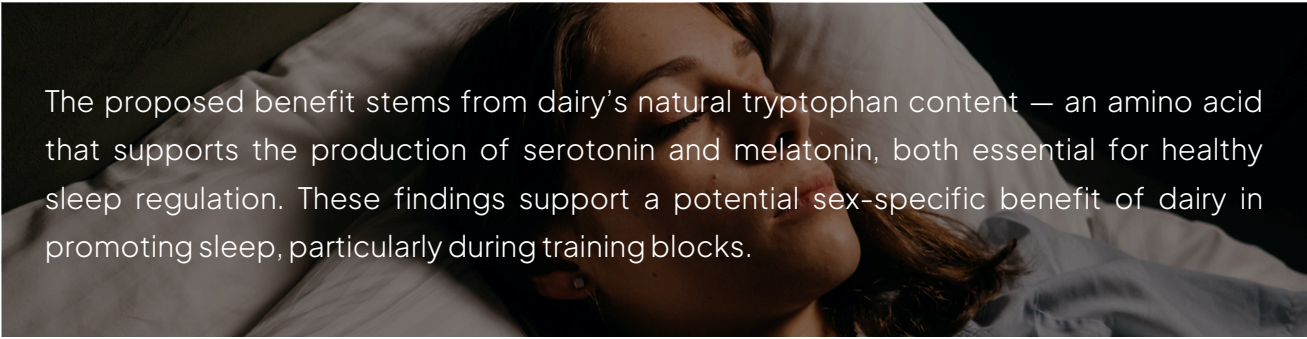
[Garvey et al. J Am Nutr Assoc. 2025 Sep 30:1-16.](#)

Nutrition Strategies to Promote Sleep in Athletes

Elite athletes often face disrupted sleep due to intense training schedules, competition stress, and frequent travel. Poor sleep can impair recovery, immune function, and performance. As a result, nutrition is gaining attention as a practical strategy to improve sleep quality and duration in this population.

A recent scoping review analyzed 12 studies exploring the effects of various dietary interventions on sleep outcomes in elite athletes. While the evidence base is still growing, several food- and nutrient-based approaches showed promise — particularly dairy, specific proteins, tryptophan-rich ingredients, and probiotics.

One large study involving 679 elite athletes found a significant association between higher dairy consumption and better subjective sleep quality in females, though the link was not observed in male athletes.

A photograph of a woman with long brown hair lying in bed, sleeping peacefully. She is wearing a light blue shirt. The background is dark, and the lighting is soft, highlighting her face and the texture of the bed linens.

The proposed benefit stems from dairy's natural tryptophan content — an amino acid that supports the production of serotonin and melatonin, both essential for healthy sleep regulation. These findings support a potential sex-specific benefit of dairy in promoting sleep, particularly during training blocks.

Several studies evaluated pre-sleep protein intake, including whey, casein, and tryptophan-enriched supplements. In elite athletes already consuming high levels of dietary protein (>2.5 g/kg body mass), additional intake did not significantly improve sleep.

This may be due to a ceiling effect, where extra tryptophan no longer enhances melatonin production, possibly because of competition with other amino acids for transport into the brain. When protein needs are already met, further supplementation may have little impact on sleep quality or duration.

A whey protein fraction rich in tryptophan called alpha-lactalbumin, reduced sleep onset latency — helping them fall asleep faster during a competitive season - in a group of female team-sport athletes. This suggests α -lactalbumin may offer specific sleep support in female athletes or during periods of heightened stress.

A 17-week probiotic intervention in elite rugby players showed improved sleep quality, alongside reductions in muscle soreness and inflammation (CRP levels). The probiotics did not directly affect sleep architecture, but better recovery likely contributed to improved sleep scores. Probiotics may influence sleep indirectly by supporting gut health and reducing inflammation — both relevant for athletes under heavy training loads.

The review also highlighted that fruit-based interventions like kiwifruit and tart cherry juice improved sleep measures, while micronutrients like zinc, iron, and vitamin B12 being positively associated with sleep efficiency, further underscoring the importance of nutritional adequacy.

[Rackard et al. Sports. 2025 13\(10\), 342](#)

Lactoferrin in Action: From Structure to Application

Lactoferrin (Lf) is a multifunctional iron-binding glycoprotein naturally present in mammalian secretions like milk, tears, and saliva. Known for its antimicrobial, antiviral, antioxidant, anti-inflammatory, and immunomodulatory activities, Lf plays a key role in innate immunity and infant development. Structurally, it consists of two lobes capable of binding iron, and its glycosylation patterns vary by species and lactation stage. Lf is particularly abundant in colostrum and is commercially extracted from milk or whey.

Lf's functions include enhancing immune response, reducing oxidative stress, and exhibiting anticancer, antibacterial, and antiviral effects. Its ability to sequester iron, interact with cell membranes, and bind pathogens underpins many of these actions. Additionally, Lf supports gut health, promotes beneficial microbiota, and has been explored for roles in sepsis management, liver protection, and even COVID-19 mitigation.

Beyond its native functions, Lf can form stable complexes with proteins, polyphenols, saccharides, and other bioactive compounds. These complexes enhance the stability, solubility, and bioactivity of both Lf and the bound molecules — improving antioxidant capacity, emulsification, nutrient delivery, and controlled release. The complexation process is influenced by pH, temperature, and pressure, and can be tailored to specific functional needs.

Applications for Lf-bioactive compound complexes are broad and growing. In dairy, they improve nutritional value, support digestion, and mimic functional properties of human milk. In medicine, Lf complexes enhance drug delivery and immune modulation. In cosmetics, they

offer anti-aging and skin-brightening effects. In agriculture, Lf-based nanoparticles and gene-modified plants show promise in reducing pathogen load. Lf is generally recognized as safe (GRAS) in many countries for use in infant formula and functional foods, though regulatory limits vary.

Overall, Lf's unique structural and functional characteristics, along with its ability to form synergistic complexes, make it a highly valuable ingredient in food, health, pharmaceutical, and agricultural products.

[Chen et al. J Dairy Sci. 2025 Nov;108\(11\):11771-11786](#)

Leucine-Enriched β -Lactoglobulin vs Whey Isolate on Muscle Protein Synthesis



β -lactoglobulin (BLG) is a major whey protein component naturally rich in essential amino acids, particularly leucine (LEU), which plays a key role in stimulating muscle protein synthesis (MPS) after meals. Evidence suggests that protein doses lower in total quantity but higher in leucine can stimulate MPS to a similar extent as larger protein servings. This study compared the effects of a ~10 g dose of BLG (1.57 g LEU) to an isonitrogenous dose of whey protein isolate (WPI; 1.02 g LEU) on MPS in healthy young men.

Ten men (average age 26 years) completed a randomized, double-blind, cross-over trial receiving either BLG or WPI. A stable isotope tracer infusion ([1,2- $^{13}\text{C}_2$] leucine) measured MPS at rest and following feeding (FED) or feeding plus resistance exercise (FED-EX: 6 sets of 8 leg extensions at 75% 1-RM). Plasma insulin and amino acid concentrations were also analyzed.

Both proteins rapidly increased plasma levels of essential amino acids (EAAs), branched-chain amino acids (BCAAs), and leucine, with significantly higher levels observed after BLG ingestion ($p < 0.05$). MPS was significantly elevated in both FED and FED-EX conditions, with no difference between protein types in terms of overall MPS response.

BLG and WPI were equally effective in stimulating muscle protein synthesis in healthy young men, but BLG led to higher postprandial EAA, BCAA, and leucine availability. These findings support further investigation into the use of leucine-rich BLG to support muscle health, particularly in older adults or clinical populations with reduced anabolic sensitivity or suboptimal protein intake.

Ely et al. Nutrients. 2025 17, 3410.

Supplement Containing Whey Protein Shows Improvement in PMS Symptoms



Premenstrual syndrome (PMS) is a common and sometimes debilitating condition affecting women of reproductive age. PMSoff is a natural supplement containing a blend of ingredients—spirulina, whey protein, calcium citrate, vitamin B1, chamomile, turmeric, marigold, lavender, saffron, valerian, and aftimoon—formulated to help relieve PMS symptoms. A recently published clinical trial evaluated the safety and effectiveness of PMSoff in reducing the severity of PMS and premenstrual dysphoric disorder (PMDD) symptoms.

In a double-blind, randomized controlled trial, women with PMS were assigned to receive either PMSoff or a placebo. Symptom severity was assessed using the Daily Record of Severity of Problems (DRSP) at baseline, one month, and two months. PMDD symptoms were also monitored as a secondary outcome..

Of 255 women randomized, 218 aged 14–30 completed the study. Baseline characteristics were similar across groups, and treatment adherence was 72%. After one month, the PMSoff group showed a significant reduction in PMS symptoms compared to placebo, which became more pronounced after two months. Among participants with PMDD, symptom improvement was also significant after two months.

PMSoff significantly reduced PMS and PMDD symptoms over two months, with no major safety concerns. These findings support its potential as a natural, non-pharmacological option for managing premenstrual symptoms. Further research is needed to explore long-term benefits and underlying mechanisms.

Saghafi et al. J Pharm Health Care Sci, 2025, 11, 88

IN THE NEWS



Actus Nutrition launches BeneSpore™ probiotic, the only FDA-approved *Bacillus velezensis* strain

BeneSpore™ BV379 is a next-generation probiotic featuring a proprietary strain of *Bacillus velezensis*. Clinically shown to reduce bloating, help produce digestive enzymes, and support a balanced gut microbiome; BeneSpore™ delivers proven digestive wellness benefits for the use in supplements, beverages and fortified foods. BeneSpore™ is the only FDA approved *Bacillus velezensis* strain.

Are the Longevity Rules Different for Women? – The New York Times

A growing group of female experts, dubbed the “menoposse,” is challenging the male-dominated longevity space with tailored advice for women, especially around menopause. While biological differences like hormones and disease risks exist, experts agree that the fundamentals of healthy aging — regular strength training, adequate protein, quality sleep, and moderate alcohol intake — largely apply to both sexes.

