PriMera Scientific Surgical
Research and Practice
Volume 8 Issue 1 July 2026
DOI: 10.56831/PSSRP-08-298
ISSN: 2836-0028

PriMera Scientific Publications

Alternatives to GLP-1 Peptides

Type: Review Article
Received: June 22, 2026
Published: July 21, 2026

Citation:
Christina Rahm. "Alternatives to GLP-1 Peptides". PriMera Scientific Surgical Research and Practice 8.1 (2026): 313-316.

Christina Rahm*

DRC VENTURES LLC, USA

***Corresponding Author:** Christina Rahm, DRC VENTURES LLC, USA.

Abstract

This paper examines evidence-based nutraceutical alternatives to glucagon-like peptide-1 (GLP-1) receptor agonists for weight management and metabolic health. While GLP-1 therapies are effective for appetite suppression and glycemic control, their use is often limited by adverse gastrointestinal effects, injectable administration, high cost, and clinically significant loss of lean muscle mass, which can compromise metabolic rate and long-term weight maintenance.

The paper introduces two nutraceutical formulations, Sculpt and Crush, designed to address these limitations through physiological rather than pharmacologic mechanisms. Sculpt focuses on appetite, glucose, and craving regulation by enhancing upstream metabolic communication between the gut, pancreas, liver, and central nervous system. Its botanical components support glycemic stability, satiety signaling, stress modulation, and gut–brain communication without directly suppressing hunger. Key ingredients, including Gymnema sylvestre, white kidney bean extract, ginger root, adaptogenic botanicals, and valerian root, are supported by clinical and systematic review evidence for their roles in glucose regulation, appetite modulation, metabolic efficiency, and stress-related eating behaviors.

Crush addresses one of the most significant challenges associated with GLP-1 therapies: lean muscle loss during rapid weight reduction. By supplying essential amino acids, β-hydroxy-β-methylbutyrate (HMB), and mitochondrial and antioxidant support, Crush is formulated to preserve muscle mass, maintain metabolic rate, and protect cellular energy systems during caloric restriction. These components are supported by human clinical trials and meta-analyses demonstrating benefits in muscle preservation, strength, and metabolic resilience.

Together, Sculpt and Crush offer a complementary, evidence-based nutraceutical approach to weight management that emphasizes metabolic communication, muscle preservation, and long-term metabolic health. Rather than suppressing hunger through pharmacologic intervention, this strategy supports sustainable weight control through physiological signaling pathways, without injections or compromised metabolic outcomes.

Alternatives to GLP-1 Peptides and Their Scientific Backing

The use of glucagon-like peptide-1 receptor (GLP-1) agonists has expanded in the management of obesity and metabolic disorders, with applications that include appetite suppression, glycemic regulation, and weight reduction. Despite their effectiveness, GLP-1 therapies are associated with several limitations, including adverse gastrointestinal effects, an injectable route of administration, high cost, and clinically significant reductions in lean muscle mass. Muscle loss during weight reduction is particularly concerning because it contributes to metabolic slowing and increases the risk of weight regain. As a result, there has been growing interest in nutraceutical strategies that support metabolic health without relying on pharmacologic appetite suppression.

Sculpt: Appetite, Glucose, and Craving Regulation Through GLP-1–Like Support

Botanical Modulation of Appetite and Glucose Signaling

Sculpt functions not by directly activating GLP-1 receptors, but by enhancing upstream metabolic communication between the gastrointestinal tract, pancreas, liver, and central nervous system. This approach supports appetite regulation and glucose control through physiological signaling pathways rather than imposed hunger suppression.

Gymnema sylvestre

Gymnema sylvestre has been extensively studied for its ability to reduce sweet taste perception and sugar cravings through the action of gymnemic acids, which temporarily block glucose receptors on the tongue. Beyond its sensory effects, Gymnema has been shown to decrease intestinal glucose absorption and enhance insulin secretion, thereby improving postprandial glycemic control (Tiwari et al., 2014). More recently, a randomized clinical trial in individuals with obesity demonstrated that Gymnema supplementation improved adipokine profiles, body composition, and metabolic parameters, further supporting its role in appetite and glucose regulation (Bandala et al., 2024).

White Kidney Bean Extract (Phaseolus vulgaris)

White kidney bean extract is a natural alpha-amylase inhibitor that reduces the breakdown and absorption of dietary carbohydrates by inhibiting amylase activity. This mechanism blunts postprandial glucose spikes without inducing excessive appetite (Nolan et al., 2020; Udani et al., 2018). Systematic reviews and meta-analyses support that Phaseolus vulgaris supplementation has a moderate effect on reducing body weight, fat mass, and glycemic response, suggesting its utility as a metabolic support strategy rather than as a form of pharmacologic appetite suppression.

Ginger Root (Zingiber officinale)

Ginger supports metabolic health through multiple mechanisms, including increased thermogenesis, enhanced fat oxidation, and improved insulin sensitivity. An extensive systematic review of randomized controlled trials reported that ginger supplementation improves fasting blood glucose, inflammatory markers, and digestive motility, all of which contribute to improved satiety signaling and metabolic efficiency (Anh et al., 2020). These effects help stabilize appetite by strengthening gut–brain communication.

Panax notoginseng and Astragalus membranaceus

Adaptogenic botanicals such as Panax notoginseng and Astragalus membranaceus, have been shown to enhance mitochondrial efficiency, insulin signalling, and lipid metabolism (Udani et al., 2019). These compounds support sustained energy homeostasis without reliance on stimulant-driven appetite suppression, thereby promoting long-term metabolic fitness through improved metabolic flexibility and cellular energy production.

Valerian Root

Sleep disorders and chronic stress are closely linked to imbalances in appetite-regulating hormones and the development of insulin

resistance. Valerian root has been shown to improve sleep quality and reduce stress-related cortisol secretion (Shinjyo et al., 2020). By supporting restorative sleep, valerian supplementation may indirectly improve metabolic hormone regulation and reduce stress-related eating behaviors.

Sculpt Outcome

Sculpt supports normalized hunger signaling, reduces cravings, and stabilizes glycemic regulation without chemically inhibiting appetite. These effects are achieved through botanical modulation of appetite pathways, glucose regulation, stress responses, and gut-mediated signaling.

Crush: Muscle Preservation and Metabolic Protection

Addressing Lean Muscle Loss in Weight Reduction

One of the most significant concerns associated with GLP-1 therapies is the reduction of lean muscle mass during rapid weight loss. Preserving lean mass is essential for maintaining resting metabolic rate, functional strength, and long-term weight stability. The formulation of Crush is designed to counteract muscle catabolism and metabolic decline.

Essential Amino Acids and Branched-Chain Amino Acids

Essential amino acids (EAAs), including branched-chain amino acids (BCAAs), contain substrates for muscle protein synthesis. Sufficient EAA consumption during periods of caloric restriction supports muscle maintenance and metabolism (Wolfe, 2017; Li et al., 2024). Although BCAAs alone are insufficient, comprehensive EAA formulations combined with daily physical activity or resistance exercise effectively support anabolic signaling.

β-Hydroxy-β-Methylbutyrate (HMB)

HMB is a leucine metabolite with strong evidence supporting its role in reducing muscle protein breakdown. Several meta-analyses demonstrate that MB supplementation helps preserve lean mass during energy restriction and periods of clinical stress, while also improving muscle strength and reducing catabolism (Holechek, 2017; Bear et al., 2019; Bideshki et al., 2025). These properties make HMB highly beneficial in weight-loss programs where muscle wasting is a concern.

Mitochondrial and Antioxidant Support

TetraSOD marine phytoplankton increases endogenous antioxidant defense systems, such as superoxide dismutase, catalase, and glutathione pathways. Glutathione plays a key role in detoxification and mitochondrial protection, supporting ATP production and fat oxidation. Grape seed extract and milk thistle provide additional polyphenols that help mitigate oxidative stress and support hepatic lipid metabolism.

Crush Outcome

Crush helps address the metabolic risks with rapid weight loss by maintaining muscle mass and mitochondrial function while supporting overall metabolic processing, targeting one of the major limitations of GLP-1 therapies.

Conclusion

Crush and Sculpt provide an evidence-based nutraceutical alternative to GLP-1 peptide therapy by supporting appetite regulation, glycemic control, stress response, and lean muscle preservation. Rather than suppressing hunger signals, this alternative enhances metabolic communication between the brain, liver, muscle, and gut, leading to a healthy approach of weight management without injections, severe appetite suppression, or compromised metabolic outcomes.

References

1. Anh NH., et al. "Ginger on Human Health: A Comprehensive Systematic Review of 109 Randomized Controlled Trials". Nutrients 12.1 (2020): 157.
2. Bandala C., et al. "Comparative Effects of Gymnema sylvestre and Berberine on Adipokines, Body Composition, and Metabolic Parameters in Obese Patients: A Randomized Study". Nutrients 16.14 (2024): 2284.
3. Bear DE., et al. "β-Hydroxy-β-methylbutyrate and its impact on skeletal muscle mass and physical function in clinical practice: a systematic review and meta-analysis". The American journal of clinical nutrition 109.4 (2019): 1119-1132.
4. Bideshki MV., et al. "Ergogenic Benefits of β-Hydroxy-β-Methyl Butyrate (HMB) Supplementation on Body Composition and Muscle Strength: An Umbrella Review of Meta-Analyses". Journal of cachexia, sarcopenia and muscle 16.1 (2025): e13671.
5. Holeček M. "Beta-hydroxy-beta-methylbutyrate supplementation and skeletal muscle in healthy and muscle-wasting conditions". Journal of cachexia, sarcopenia and muscle 8.4 (2017): 529–541.
6. Li G, Li Z and Liu J. "Amino acids regulating skeletal muscle metabolism: mechanisms of action, physical training dosage recommendations and adverse effects". Nutrition & Metabolism 21.1 (2024): 41.
7. Nolan R., et al. "It's No Has Bean: A Review of the Effects of White Kidney Bean Extract on Body Composition and Metabolic Health". Nutrients 12.5 (2020): 1398.
8. Shinjyo N, Waddell G and Green J. "Valerian Root in Treating Sleep Problems and Associated Disorders-A Systematic Review and Meta-Analysis". Journal of evidence-based integrative medicine 25 (2020): 2515690X20967323.
9. Tiwari P, Mishra BN and Sangwan NS. "Phytochemical and pharmacological properties of Gymnema sylvestre: an important medicinal plant". BioMed research international (2014): 830285.
10. Udani J, Tan O and Molina J. "Systematic Review and Meta-Analysis of a Proprietary Alpha-Amylase Inhibitor from White Bean (Phaseolus vulgaris L.) on Weight and Fat Loss in Humans". Foods (Basel, Switzerland) 7.4 (2018): 63.
11. Wolfe RR. "Branched-chain amino acids and muscle protein synthesis in humans: myth or reality?". Journal of the International Society of Sports Nutrition 14 (2017): 30.