BIOLOGIC PHARMAMEDICAL RESEARCH + MANUFACTURING

Every Major Sweetener Has a *Problem.* GLYVIA™ Doesn't.

A clinical, patent-protected comparison of the 10 most widely used sweeteners on the market — and why GLYVIA™ stands alone.

- 100% Plant-Based Natural Sweetener
- Zero Glycemic Index
- Zero Calorie
- Supports Healthy Glucose Metabolism
- Patent Protected
- Health Canada NPN Licensed
- Gut-Positive Profile





BIOLOGIC PHARMAMEDICAL

RESEARCH & MANUFACTURING — CONFIDENTIAL BRAND BROCHURE

THE SCIENCE

A Sweetener Built Differently at the Molecular Level

GLYVIA™ is a **natural, plant-based sweetener system**. The patented Biologic Amino Acetic Acid Complex™, developed by Dr. Franco Cavaleri, PhD, pairs plant-derived glycosides (including purified stevia extracts such as Reb M) with a natural amino acid base (glycine). GLYVIA™ carries an approved **Health Canada Natural Product Number (NPN)** — recognized as a functional natural health product, not just a food additive.







The Biologic Amino Acetic Acid Complex™

A patented structural complexing of plant-derived glycosides with a natural amino acid base — delivering sugar-like sweetness with zero glycemic impact and zero calories.

Supports Healthy Glucose Metabolism

Research conducted at Biologic Pharmamedical indicates that GLYVIA™ supports healthy glucose metabolism — research that has allowed for approved claims to ‘supports healthy blood sugar status.’

Gut-Positive by Design

Its prebiotic-positive amino acid structure supports beneficial gut bacteria — the structural opposite of erythritol, sucralose, saccharin, and stevia, all with documented microbiome concerns.

Patent Protection Worldwide

GLYVIA™'s proprietary complex cannot be replicated. Brands using GLYVIA™ benefit from the exclusivity of a protected, defensible position in the market.

CLINICAL RESEARCH FINDINGS

The Science Behind the Blue Line

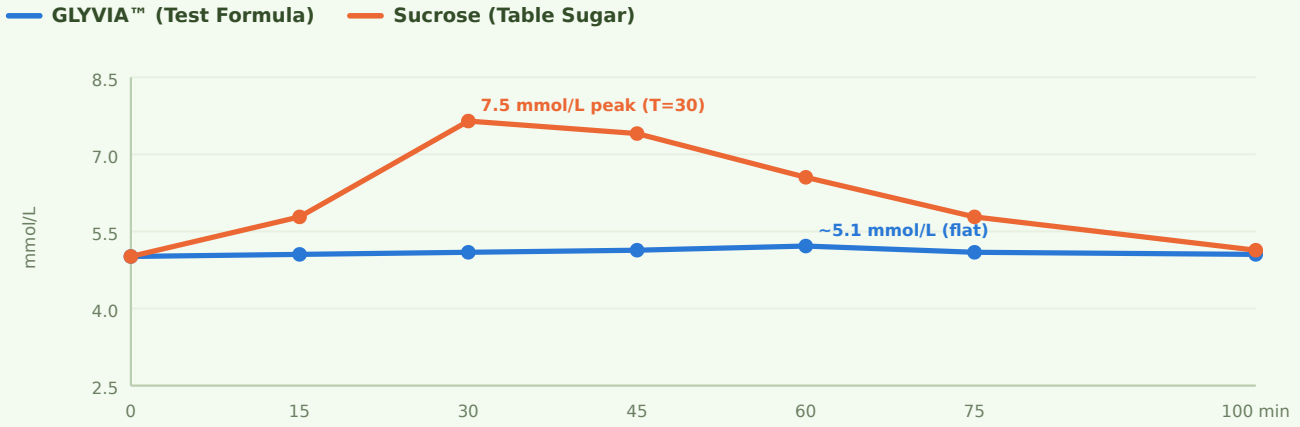
Research conducted at Biologic Pharmamedical indicates that GLYVIA™ supports healthy glucose metabolism — research that has allowed for approved Health Canada claims. The serum glucose data below shows what happened when GLYVIA™ was tested head-to-head against table sugar at equal quantities.

Key Finding

In Test N3, 6.0 g of GLYVIA™ held serum glucose **flat at fasting levels** for the full 100-minute observation window — while an equal quantity of sucrose spiked to 7.5 mmol/L and remained elevated for close to 70 minutes. GLYVIA™ does not cause the blood sugar spikes typically associated with sucrose (table sugar).

The Blue Line Path: Serum Glucose Changes — Test N3

6.0 g GLYVIA™ Test Formula vs. 6.0 g Sucrose Coffee Sweetener · Serum Glucose (mmol/L) over 100 minutes



GLYVIA™: Serum glucose remains flat near fasting levels for the full 100-minute observation window after consuming 6 g of GLYVIA™ in 300 mL of water.

Sucrose: Blood glucose spikes to 7.5 mmol/L by T=30 minutes and remains elevated for close to 70 minutes before returning toward baseline.

Statements have not been evaluated by the FDA. Not intended to diagnose, treat, cure, or prevent any disease. Data from Biologic Pharmamedical internal research study N3.

MARKET ANALYSIS

The 10 Sweeteners Every Brand is Watching

From WHO carcinogen rulings to cardiovascular risk studies, the sweetener market is undergoing a credibility crisis. Here is the clinical picture for each major alternative — and why GLYVIA™ has none of these problems.







Aspartame

Artificial · Diet Coke, Equal, Sugar-Free products

HIGH RISK

PROS

- ✓ Zero calorie
- ✓ 200× sweeter than sugar
- ✓ Long regulatory history

CONCERNS

- ✗ WHO IARC Group 2B carcinogen (2023)
- ✗ PKU contraindication
- ✗ Heat unstable

Regulatory Red Flag

WHO classification triggered mass reformulation. Liability exposure growing across every brand that depends on it.

Erythritol

Sugar Alcohol · Keto products, stevia blends

HIGH RISK

PROS

- ✓ Near-zero calorie
- ✓ Tooth-friendly
- ✓ Good taste profile

CONCERNS

- ✗ 2× cardiovascular event risk (NEJM 2023)
- ✗ GI distress at higher doses
- ✗ Supply chain risk

Category-Defining Problem

The NEJM study created immediate reformulation pressure across keto and functional food sectors. A category that built its identity on safety now faces a credibility crisis.

Sucralose

Artificial · Splenda, countless food + beverage

HIGH RISK

PROS

- ✓ 600× sweeter than sugar
- ✓ Heat stable
- ✓ Widely available

CONCERNS

- ✗ Genotoxic metabolite found in research
- ✗ Disrupts gut microbiome
- ✗ Accumulates in environment

Gut Health Liability

Genotoxicity and microbiome disruption findings are damaging brand perception. Environmental accumulation creates downstream regulatory risk.

Stevia

Natural · Truvia, Pure Via, beverage blends

CAUTION

PROS

- ✓ Natural origin
- ✓ Zero calorie
- ✓ Mainstream recognition

CONCERNS

- ✗ Bitter, licorice aftertaste
- ✗ Gut microbiome disruption
- ✗ Formulation challenges

Taste & Microbiome Gap

Consumer complaints about bitterness remain persistent. Gut microbiome research is increasingly unfavorable. Natural origin alone is not enough to carry a brand.

Monk Fruit

Natural · Lakanto, beverage and protein products

CAUTION

PROS

- ✓ Clean flavor profile
- ✓ Zero calorie, zero GI
- ✓ Natural positioning

CONCERNS

- ✗ 40–70% price volatility (China supply)
- ✗ Single-country sourcing risk
- ✗ Limited clinical research

Supply Chain Vulnerability

Near-total reliance on Chinese sourcing creates unpredictable cost and availability risk — a structural problem no quality program can resolve.

Saccharin

Artificial · Sweet'N Low, legacy diet products

HIGH RISK

PROS

- ✓ Extremely cost-effective
- ✓ Heat stable
- ✓ Long shelf life

CONCERNS

- ✗ Metallic, bitter aftertaste
- ✗ Historical carcinogen classification
- ✗ Gut microbiome disruption

Outdated & Declining

Consumer perception is poor and category share is eroding rapidly. Legacy ingredient with no path to rehabilitation in a health-conscious market.

Acesulfame-K

Artificial · Sunett, blended with other sweeteners

CAUTION

PROS

- ✓ Heat stable
- ✓ Zero calorie
- ✓ Synergistic in blends

CONCERNS

- ✗ Bitter aftertaste alone
- ✗ Emerging neurological concerns
- ✗ Never a clean-label ingredient

Blending Crutch

Its role as a blending agent underscores the weakness of every sweetener it masks. Its presence disqualifies clean-label positioning.

Xylitol

Sugar Alcohol · Oral care, gum, baked goods

CAUTION

PROS

- ✓ Dental health benefits
- ✓ Low GI vs. sugar
- ✓ Good taste similarity

CONCERNS

- ✗ Cardiovascular risk flagged (2024)
- ✗ GI distress at moderate doses
- ✗ Lethal to pets — liability risk

Emerging Liability

Cardiovascular findings mirror the erythritol situation. Pet toxicity creates labeling requirements and liability exposure in household and food service channels.

Sorbitol

Sugar Alcohol · Sugar-free candy, gum, baked goods

CAUTION

PROS

- ✓ Bulking agent properties
- ✓ Moisture retention
- ✓ Established in food tech

CONCERNS

- ✗ Laxative above 10–15g/day
- ✗ GI fermentation and bloating
- ✗ Partially caloric (2.6 kcal/g)

Functional Limits

GI warnings are required in many jurisdictions. Caloric content disqualifies zero-calorie claims. Suitable only for bulking roles where alternatives exist.

Allulose

Rare Sugar · Emerging functional food ingredient

LOWER RISK

PROS

- ✓ Near-zero calorie (~0.4 kcal/g)
- ✓ Low GI, doesn't spike glucose
- ✓ Good baking and browning

CONCERNS

- ✗ High cost; limited commercial scale
- ✗ GI distress at higher doses
- ✗ No active metabolic benefit

Best of the Rest — Still Metabolically Passive

The cleanest conventional alternative on the market — but it carries no approved health claims. GLYVIA™ does.

THE CASE

5 Reasons GLYVIA™ Is in a Category of One

This is not a matter of degree — it is a structural separation. GLYVIA™ does things no existing sweetener does, solves problems all of them share, and arrives at exactly the moment the market needs a credible alternative.

1

Approved Health Canada Claims

GLYVIA™ carries an approved Health Canada Natural Product Number (NPN) with authorized claims: supports healthy glucose metabolism and helps maintain normal blood glucose levels, and provides a source of amino acids involved in muscle protein synthesis. A regulatory position no conventional sweetener holds.

2

Zero Calorie and Zero Glycemic Index

GLYVIA™ delivers zero calories and zero glycemic load. It qualifies for zero-calorie and zero-GI claims simultaneously, making it suitable for diabetic, keto, and calorie-restricted formulations without compromise.

3

Confirmed Gut-Positive Profile

GLYVIA™'s prebiotic-positive amino acid structure supports beneficial gut bacteria — directly contrasting with erythritol, sucralose, saccharin, and stevia, all of which have published microbiome disruption research. Gut health is now a primary consumer purchase driver.

4

Patent Protection Worldwide

The Biologic Amino Acetic Acid Complex™ is fully patent-protected. Brands licensing GLYVIA™ are buying exclusivity, differentiation, and defensible intellectual property. No competitor can reformulate to match it.

5

Arrives at the Moment the Market Needs It Most

Aspartame: WHO carcinogen classification 2023. Erythritol: 2× cardiovascular risk (NEJM 2023). Sucralose: genotoxic metabolite research. Monk fruit: supply-chain fragility. Every major sweetener is under documented pressure simultaneously — and GLYVIA™ has none of these problems.

HEAD-TO-HEAD

15-Criteria Master Comparison

CRITERION	GLYVIA™	ASPARTAME	ERYTHRITOL	SUCRALOSE	STEVIA	MONK FRUIT
Zero Calorie	✓ **Yes**	✓	✓	✓	✓	✓
Zero Glycemic Index	✓ **Yes**	✓	✓	✓	✓	✓
Approved Health Claims	✓ **NPN**	✗ None	✗ None	✗ None	✗ None	✗ None
Gut-Positive Profile	✓ **Yes**	⚠	✗ Disruptive	✗ Disruptive	✗ Disruptive	⚠
Patent Protected	✓ **Global**	✗	✗	✗	✗	✗
Clean Taste	✓ **Clean**	✓	✓	⚠ Aftertaste	✗ Bitter	✓
Heat Stability	✓ **Stable**	✗ Degrades	✓	✓	✓	✓
WHO / Regulatory	✓ **Clean**	✗ Group 2B	⚠ Review	⚠ Genotoxic	✓	✓
Cardiovascular Safety	✓ **No flags**	⚠	✗ 2× risk	⚠	✓	✓
Supply Chain Security	✓ **Diversified**	✓	✓	✓	✓	✗ China-only
Diabetic-Safe	✓ **Yes**	✓	✓	✓	✓	✓
Keto-Compatible	✓ **Yes**	✓	✓	✓	✓	✓
Clinical Research Depth	✓ **Extensive**	✓	⚠	⚠	⚠	⚠ Limited
Available as Ingredient	✓ **Yes**	✓	✓	✓	✓	✓
Unique Brand Claim	✓ **Unique**	✗ Commodity	✗ Commodity	✗ Commodity	✗ Commodity	✗ Commodity

NATURAL & OFFICIALLY RECOGNIZED

A Natural Sweetener with an Approved Health Canada NPN

GLYVIA™ is a patented, zero-calorie, zero-carbohydrate **plant-based natural sweetener system** — plant-derived glycosides (such as purified stevia extracts like Reb M) complexed with a natural amino acid base (glycine). It carries an approved **Health Canada Natural Product Number (NPN)**, recognizing it as a functional natural health product rather than a basic food additive.

APPROVED HEALTH CANADA USES & CLAIMS

- Supports healthy glucose metabolism and helps maintain/support normal blood glucose levels
- Provides a source of amino acids involved in muscle protein synthesis
- Does not cause the blood sugar spikes typically associated with sucrose (table sugar)

Cautions (per NPN registration): Individuals with diabetes, hypoglycemia, or hypotension, or those taking blood-sugar-lowering medications, should consult a healthcare practitioner before use. Consult a doctor or avoid use if pregnant or breastfeeding. Discontinue use and consult a professional if symptoms of low blood sugar occur (sweating, chills, confusion, or dizziness).

COMMERCIAL OPPORTUNITIES

Partner With GLYVIA™

GLYVIA™ — a natural, plant-based, Health Canada NPN-licensed sweetener system — is available for ingredient supply, white-label manufacturing, licensing, and co-branding across a wide range of product categories. Multiple formats and concentrations available.

📦

Ingredient Supply

Source GLYVIA™ as a bulk ingredient for your existing product formulations. Ideal for manufacturers looking to differentiate through a clinically researched, patent-protected sweetener.

Best fit: Food, beverage, nutraceutical manufacturers

🏷️

White-Label Manufacturing

Launch finished GLYVIA™-powered products under your brand. We handle formulation, manufacturing, and quality control — you bring the brand and the market.

Best fit: Brands launching functional food or supplement lines

🔑

Regional / Category Licensing

Secure an exclusive or semi-exclusive license for GLYVIA™ within a defined geography or product category. Build a defensible market position around a protected ingredient.

Best fit: Established brands seeking category exclusivity

🤝

Co-Branding

Feature the GLYVIA™ brand alongside yours as a mark of clinical credibility and ingredient quality — similar to how "Intel Inside" elevated hardware brands.

Best fit: Consumer brands targeting health-conscious demographics

APPLICATIONS

- 🥤 **Functional Beverages**
- ⚡ **Sports & Energy Drinks**
- 💊 **Nutraceuticals**
- 🍞 **Keto & Diabetic Baking**
- 🥛 **Dairy & Protein Products**
- 💉 **Pharma Chewables**
- 🧂 **Tabletop Packets**
- 🍫 **Protein Bars & Meal Replacements**

AVAILABLE FORMATS

Granular Powder · **Fine Powder** · **Tablet / Compressed** · **Liquid Concentrate** · **Syrup** · **Custom Concentrations**

Ready to Talk?

GLYVIA™ is now accepting ingredient supply, white-label, and licensing inquiries globally. Bring your brief — we will bring the science.

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