NANOEMULSION

GLP-1 AMPLIFIER

THIS INFORMATION IS PROVIDED AS A MEDICAL AND SCIENTIFIC EDUCATIONAL RESOURCE FOR THE USE OF PHYSICIANS AND OTHER LICENSED HEALTH CARE PRACTITIONERS ("PRACTITIONERS"). THIS INFORMATION IS INTENDED FOR PRACTITIONERS TO USE AS A BASIS FOR DETERMINING WHETHER TO RECOMMEND THESE PRODCUTS TO THEIR PATIENTS. ALL RECOMMENDATIONS REGARDING PROTOCOLS, DOSING, PRESCRIBING AND/ OR USAGE INSTRUCTIONS SHOULD BE TAILORED TO INDIVIDUAL NEEDS OF THE PATIENT CONSIDERING THEIR MEDICAL HISTORY AND CONCOMITANT THERAPIES. THE DIETARY SUPPLEMENTS OFFERED BY QUICKSILVER SCIENTIFIC ARE NOT INTENDED FOR USE BY CONSUMERS AS A MEANS TO CURE, TREAT, PREVENT, DIAGNOSE, OR MITIGATE ANY DISEASE OR OTHER MEDICAL CONDITION.

GLP-1 Amplifier is a phytonutrient blend formulated to support healthy GLP-1 signaling, a hormone pathway involved in glucose metabolism, digestion, and satiety. This unique combination includes berberine HCl, cinnamon bark oil, diindolylmethane (DIM), milk thistle seed extract, quercetin dihydrate, and resveratrol — phytonutrients that have been studied for their potential role in metabolic function.

Supplement Facts

Serving Size: 5 mL (1 tsp.)
Servings Per Container: 20

	Amount Per Serving	% Daily Value
Proprietary Blend: Highly purified phospholipids, Diindolylmethane, Quercetin Dihydrate (from Sophora japonica flower), Milk Thistle Seed Extract (80% Silymarin), Resveratrol (from Polygonum cuspidatum root), Berberine HCL (from Phellodendron amurense bark), Cinnamon bark oil	415mg	**

**Daily Value not established

Other Ingredients: Glycerin, water, ethanol, medium chain triglycerides, tocofersolan, natural citrus oils, natural flavoring, natural mixed tocopherols, propolis extract

EDUCATION

UNDERSTANDING GLP-1 AND ITS ROLE IN METABOLIC FUNCTION

Glucagon-like peptide-1 (GLP-1) is a hormone produced primarily by intestinal cells and plays a role in metabolic health by supporting blood glucose balance and insulin secretion, modulating digestion, and promoting satiety.[1,2] Emerging research also suggests GLP-1 may influence inflammation, cardiovascular function, and cognitive performance.[1]

GLP-1 activity can be influenced by the digestion of glucose, amino acids, fatty acids, and fiber.[3] While dietary strategies are commonly recommended for maintaining metabolic health (e.g., healthy bodyweight and insulin sensitivity), some individuals may experience challenges in GLP-1 signaling associated with metabolic imbalance.[4]

Because metabolic dysfunction is a growing concern, more attention has been placed on strategies to manage its occurrence.[5] GLP-1 agonists have emerged as a solution due to their ability to mimic the effects of endogenous GLP-1. Like the action of endogenous GLP-1, GLP-1 agonists support the release of insulin, thereby lowering blood glucose levels, slowing digestion to increase glucose absorption from food, and reducing appetite. Combined, these effects have been shown to promote successful weight loss.[6] However, despite their effectiveness at lowering body weight, pharmaceutical GLP-1 agonists may contribute to serious side effects, including nausea, vomiting, constipation, diarrhea, bowel obstruction, and health concerns related to the pancreas, stomach, and thyroid.[7-10] Due to these risks and the unknown long-term consequences of use, there is a growing interest in

plant-based adjuncts or alternatives for metabolic wellness. Emerging research suggests several phytonutrients may act as GLP-1 agonists.

PHYTONUTRIENT SUPPORT FOR METABOLIC FUNCTION AND GLP-1 PATHWAYS

Berberine is a bitter alkaloid found in Goldenseal, Oregon grapes, and Chinese goldthread. It has been used in Traditional Chinese Medicine for millennia.[11] Recently, it has been studied for its ability to support glucose metabolism and insulin sensitivity.[12-14] Berberine's GLP-1 activity is indirectly attributed to its effects on gut microbiota, bitter taste receptors, and cellular signaling pathways (e.g., MAPK).[14-16] Emerging research also suggests that berberine supports mitochondrial health, which is essential to metabolic function.[16]

Cinnamon is a common household spice extracted from the inner bark of the Cinnamomum tree native to India, Sri Lanka, Bangladesh, and Myanmar. It is known for supporting healthy blood glucose balance, with a significant lowering effect on fasting blood glucose levels.[17,18] It promotes GLP-1 secretion and helps maintain healthy body composition when included as part of the diet.[19,20]

Milk thistle is a flowering plant related to daisies and ragweed, native to Europe and Asia. It is traditionally used to support liver health.[21] Its active compounds, including silymarin and silibinin, have been shown to support lipid and glucose metabolism.[22-24] Additionally, these compounds may influence GLP-1 activity.[24,25]

Quercetin is a flavonoid found in berries, onions, and grapefruit with well-known antioxidant properties.[26] Recent research suggests it may also promote insulin sensitivity, reduce hemoglobin A1c, and increase GLP-1 secretion from intestinal cells.[26-29] Some studies suggest it may slow glucose absorption and support the stability of GLP-1 in the body.[30]

Resveratrol, a polyphenol found in grapes, wine, and berries, is known for its antioxidant and anti-inflammatory properties. It influences metabolic pathways through modulation of the gut-brain axis and supports healthy fat metabolism.[31,32] It has also been shown to improve glucose management and insulin sensitivity, especially in people with dysfunctional glucose control.[33]

Diindolylmethane (DIM), a metabolite of indole-3-carbinol (I3C) found abundantly in cruciferous vegetables, is best known for its role in estrogen metabolism, but it is also being investigated for its effects on metabolic health.[34] Studies have shown that DIM has the potential to support glucose uptake and reduce oxidative stress.[35-37] What's more, I3C may also support metabolic health by influencing fat metabolism.[38]

Quicksilver Delivery Systems® improve upon liposomal and emulsification technology with smaller, more stable particles made from the highest-grade ingredients available. In addition to exceptional absorption rates, these tiny liposomal and nanoemulsified particles increase diffusion across mucous membranes, enhance lymphatic circulation of nutrients and support cellular delivery.