BERBERINE

UNLOCKING SUPERIOR METABOLIC HEALTH BENEFITS

2026

Vitafoods Europe Startup Challenge

WINNER 2026
Most Innovative
Nutraceutical Ingredient

OPTISOLV®
TECHNOLOGY

EVANIUM

Consumers are increasingly waking up to the importance of metabolic health and turning to Berberine to take control of their blood sugar, weight, and overall vitality

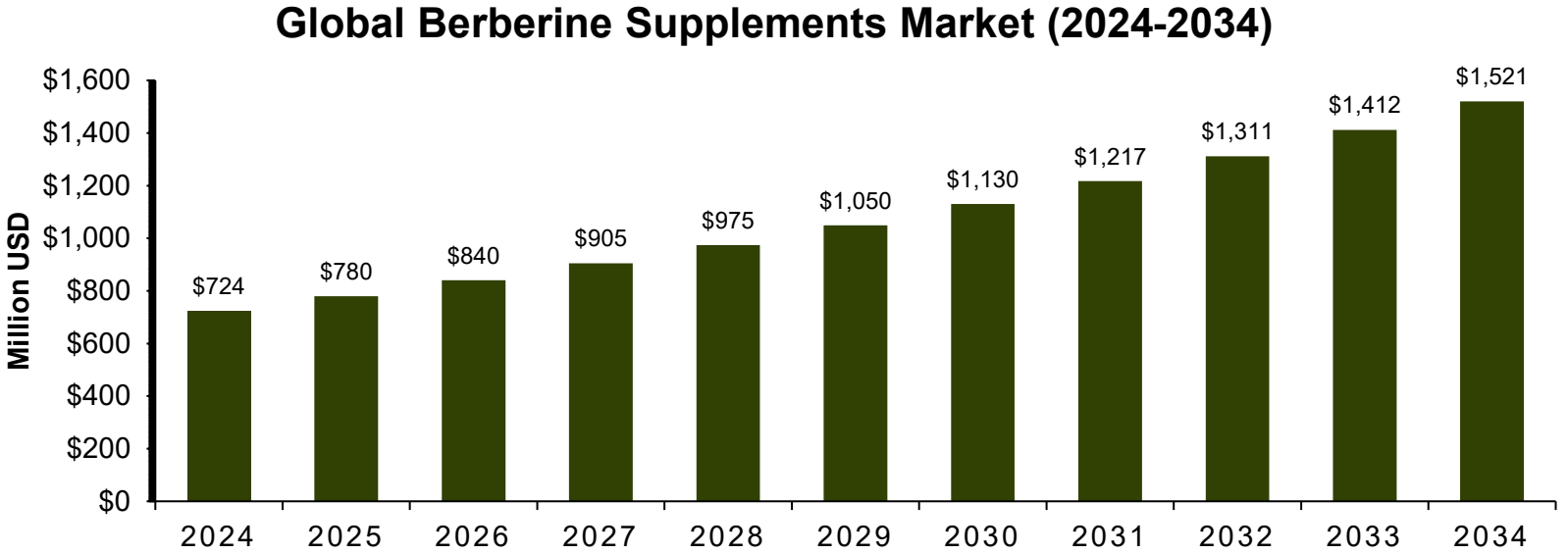
More than 28 %
global prevalence of metabolic syndrome in 2024 (20-79 yrs)

58 % CAGR
of global Berberine supplement launches from 2021-2025

$ 23.5 B
Estimated market size for metabolic health supplements in 2026

16.2 %
expected CAGR in weight loss supplements (2024-2032)

2 out of 3
People are considered overweight or obese globally in 2024



- Rising obesity rates are fueling **demand for metabolic health products**, leading to double-digit annual growth rates for supplements in the area of weight loss and blood sugar control
- Berberine is gaining traction as a **key metabolic health ingredient**, supported by clinical evidence, product innovation, and growing global adoption
- With consumer demand shifting from simple extracts towards **premium products**, growth is increasingly driven by advanced formulations that **improve bioavailability** and efficacy of plant-based metabolic health ingredients

SOURCES: Weight Loss Supplement Ingredients Market (2024 - 2030) | Dietary Supplement Market (2026-2036) | World Metabolic Health Supplements – Market Analysis, Forecast, Size, Trends and Insights | Berberine API Market Trends Shaping Future Global Demand | Global Berberine Supplements Market Size (2025-2034) | Weight Loss Supplements Market Size & Share Report, 2032 | Metabolic Health Foods Market CAGR, size, share, trends, growth, value, key players analysis | Statistics MRC report | Mintel Global New Products Database (GNPD), accessed 02.2026; search: “Berberine”, category: Food Supplements, launches 2021–2025

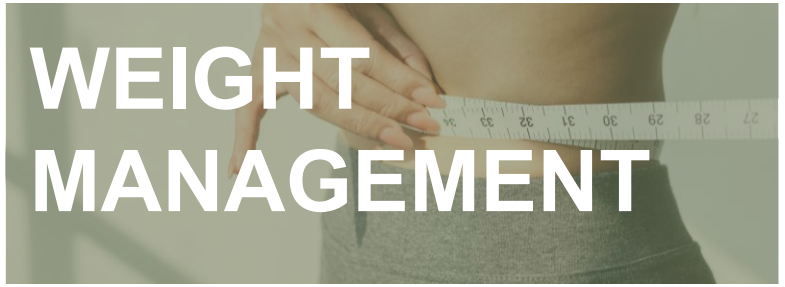
ADDRESSED HEALTH NEEDS BASED ON SCIENCE

Berberine delivers targeted support for metabolism, weight control, and glucose regulation

Berberine **reduced total cholesterol levels*** (-12.2 %, *P* < 0.05) in obese subjects within 3 months [1]

Berberine-supported lifestyle intervention (LSI) had a stronger positive effect** on **hepatic fat content** (-16.7 % VCF*) in subjects with NAFLD [2]

Berberine significantly reduced **cholesterol***** (-29 %), **triglycerides***** (-35 %), and **LDL-c***** (-25 %) values in hypercholesterolemic subjects within 3 months [3]



Berberine significantly **decreased body weight*** (-2.98 ± 3.16 kg), **BMI*** (-1.14 ± 0.80 kg/m²), **diastolic blood pressure*** (-6%), **visceral fat*** (-1.04 ± 0.76 VF %) against baseline and lowered gene expression of metabolic-related adipokines apelin and visfatin in obese subjects [4]

Berberine reduced **BMI** (-15 %, *P* < 0.01), **triglycerides** (-38.6%, *P* < 0.01) and **leptin** (-36 %, *P* = 0.04) values compared to baseline within 3 months [5]

Berberine **reduced fasting plasma glucose*** (-20 %), **postload plasma glucose*** (-25.8 %), **HbA1c*** (-0.9 ± 1.22 % VCF), and **total cholesterol*** (-18 %) levels against baseline [6] and had a significant* **hypoglycaemic** effect (-0.40 ± 0.27 % HbA1c) in type-2 diabetes (T2D) subjects through **modulation** of **gut microbiome** composition (increased *Proteobacteria* and reduced *Actinobacteria/Firmicutes*) and thus microbial metabolism within 3 months [7]

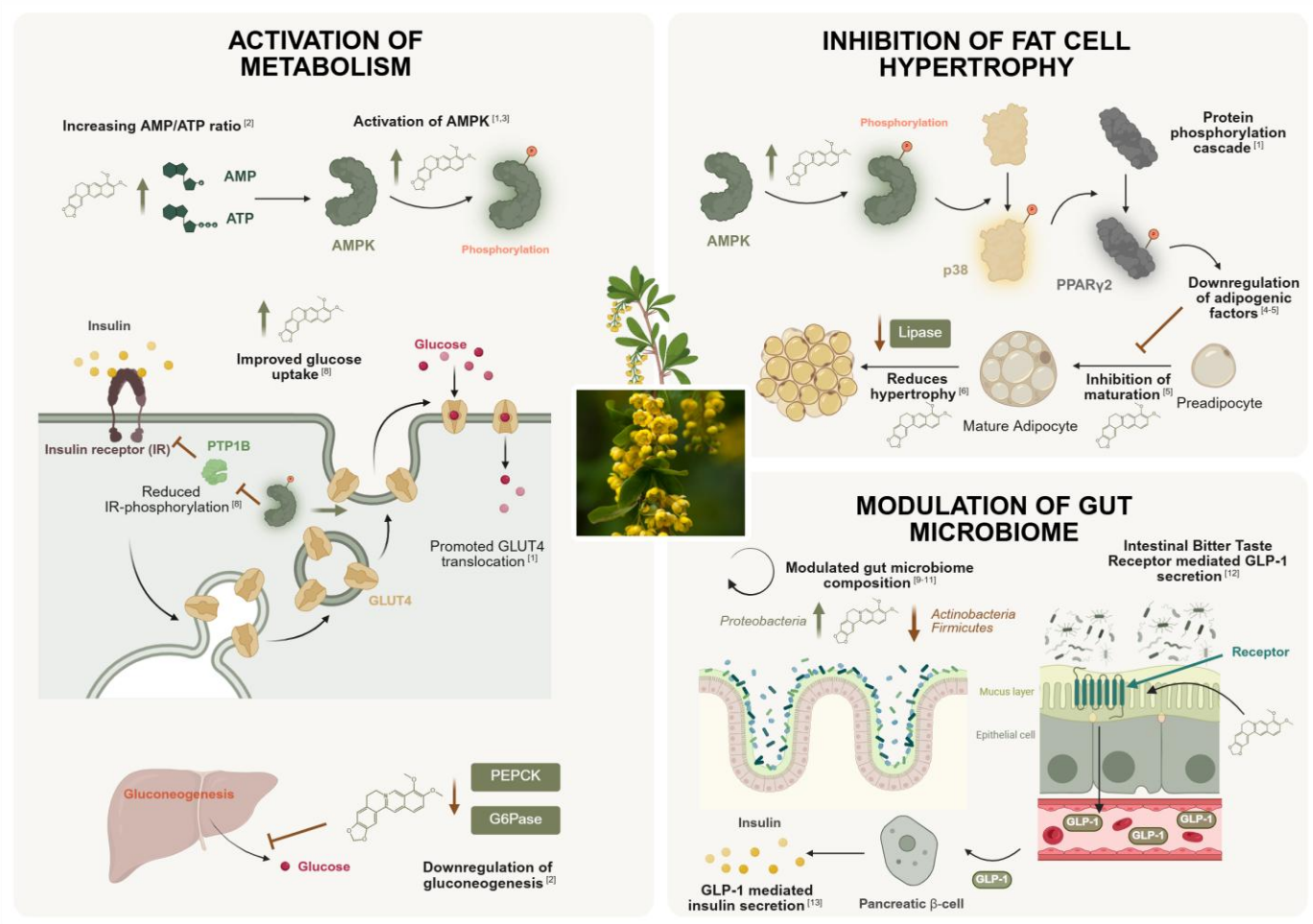
* Compared to baseline
** Compared to LSI alone
*** Statistical significance p < 0.0001

* Statistical significance *P* < 0.01

* Statistical significance *P* < 0.001 vs. placebo

(1) Hu, Y et al., 2012, *Phytomedicine: international journal of phytotherapy and phytopharmacology*.
(2) Chang, X et al., 2016, *Journal of Translational Medicine.*
(3) Kong, W et al., 2004, *Nature Medicine*.
(4) Bandala, C et al., 2024, *Nutrients*.
(5) Yang, J et al.,2011, *Evidence-Based Complementary and Alternative Medicine*.
(6) Zhang, Y et al., 2008, *The Journal of Clinical Endocrinology & Metabolism.*
(7) Zhang, Y et al., 2020, *Nature Communications*.

Mechanistic insights into berberine's action on glucose uptake, fat cell differentiation, and gut microbiome

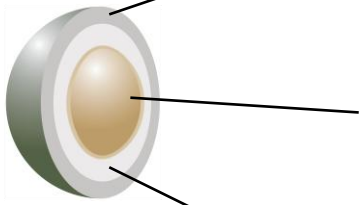


- Berberine activates a key metabolic enzyme called AMPK, helping cells **burn sugar and fat** instead of storing it [1-5]
- Berberine promotes brown fat tissue, which can **support weight control** [6-7]
- Berberine **increases glucose uptake** and **improves insulin sensitivity** through activation of AMPK signaling and phosphorylation of insulin receptors [8]
- Berberine supports a **healthy balance of gut bacteria** and activates intestinal bitter cell receptors, resulting in GLP-1-induced **insulin secretion** by pancreatic β-cells and reduced blood glucose levels [9-13]

SOURCES
(1) Lee, Y S et al., *Diabetes*, 2006.
(2) Zieniuk, B, and Pawełkowicz, M. *Metabolites*, 2025.
(3) Ren, G et al., *Frontiers in Pharmacology*, 2020.
(4) Yang, Y et al., *Molecular medicine reports*, 2020.
(5) Yang, Y et al., *Lipids*, 2019.
(6) Ağaçdiken, A A and Göktaş, Z. *PeerJ*, 2025.
(7) Wu, L et al., *Cell Death & Disease,* 2019.
(8) Chen, C et al., *Biochemical and biophysical research communications,* 2010.
(9) Zhang, L et al., *Frontiers in cellular and infection microbiology,* 2021.
(10) Wang, y et al., *Metabolism*, 2017.
(11) Cui, H-X et al., *Oxidative Medicine and Cellular Longevity*, 2018.
(12) Yu, Y et al., *Biochemical Pharmacology*, 2015.
(13) Lee, Y-S and Jun, H-S., *Metabolism*, 2014.

By encapsulating actives on a molecular level, our dual-coating technology OPTISOLV® offers wide-ranging benefits, enhancing the efficacy of ingredients

OPTISOLV® dual-coating technology

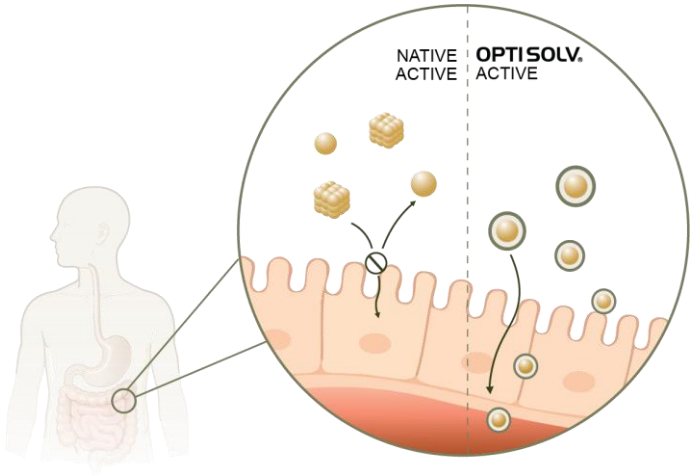


Outer Layer
Phospholipids (ensure stable release overtime, support permeability and taste masking)

Active Core
Poorly soluble ingredient

Inner Layer
Inner cyclodextrin based core (ring shaped starch molecules that improve solubility)

Native vs OPTISOLV® encapsulated ingredients



Native Active
Poor dissolution and low solubility limit absorption in the intestinal tract

OPTISOLV® Active
Crystal-free, dual-coated actives show superior solubility, dissolution, and permeability

OPTISOLV® addresses the key limitations of bioavailability by combining **enhanced solubility** with **improved permeability** through its unique **dual-coating system.**

Crystal-free stabilization enables **superior absorption**, allowing OPTISOLV® to **outperform conventional technologies** while remaining **fully natural**.

OPTISOLV® Berberine enables increased absorption and controlled release, unlocking the full potential of Berberis aristata

The perfect ingredient for innovative formulations

Due to **poor bioavailability** and **solubility**, native berberine require high doses (1000-1500mg), while OPTISOLV® Berberine is dosed at 250–500 mg

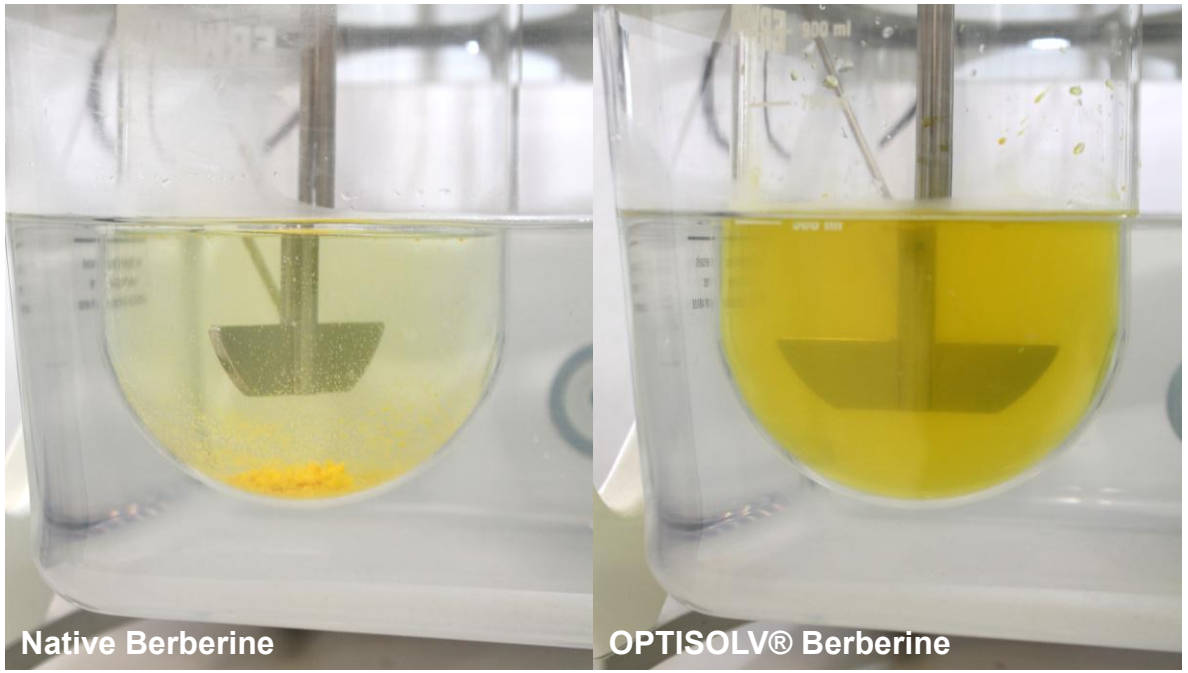
Gastrointestinal discomfort is common with high doses, reducing consumer compliance, which can be **significantly reduced** by OPTISOLV® dual-coating

Due to **unfavorable release** of native berberine, multiple doses a day are common, while OPTISOLV® Berberine shows **best-in-class dissolution profile**

OPTISOLV® dual-coating enables the next generation of metabolic health products

The difference our technology makes for berberine

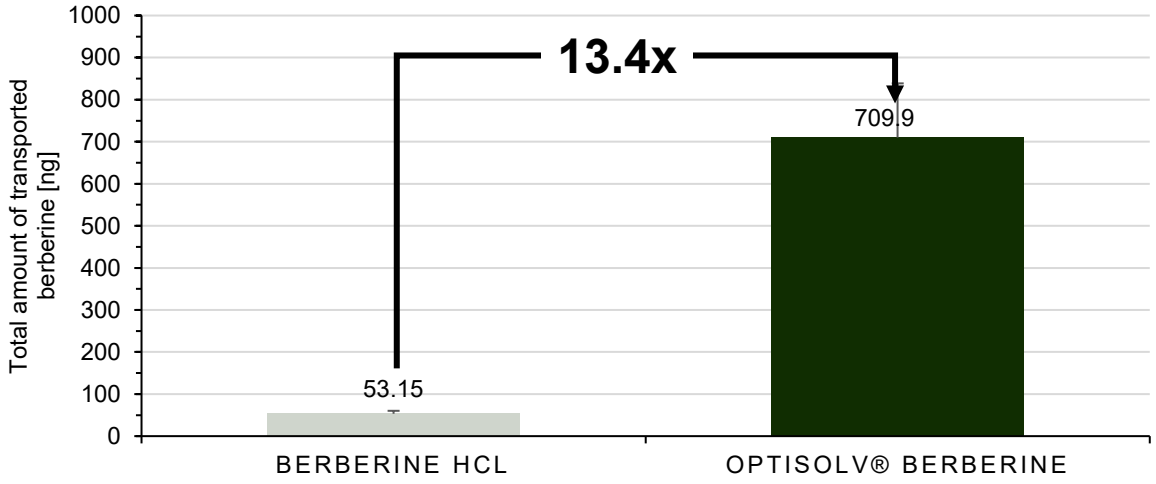
- **Increased absorption** by 13.4x, resulting in lower dose and better tolerability
- Best-in-class **dissolution profile**, enabling steady release over time
- **Increased solubility** by 10x in intestinal media



OPTISOLV® Berberine shows significantly increased absorption and dissolution, enabling next-generation metabolic support

Absorption assay (human Caco-2 cells)

- Absorbed amount of Berberine OPTISOLV® in comparison to Berberine HCL via human intestinal cell model (Caco-2)
- Pre-digestion in intestinal fluid, followed by 2 h incubation on Caco-2 cells

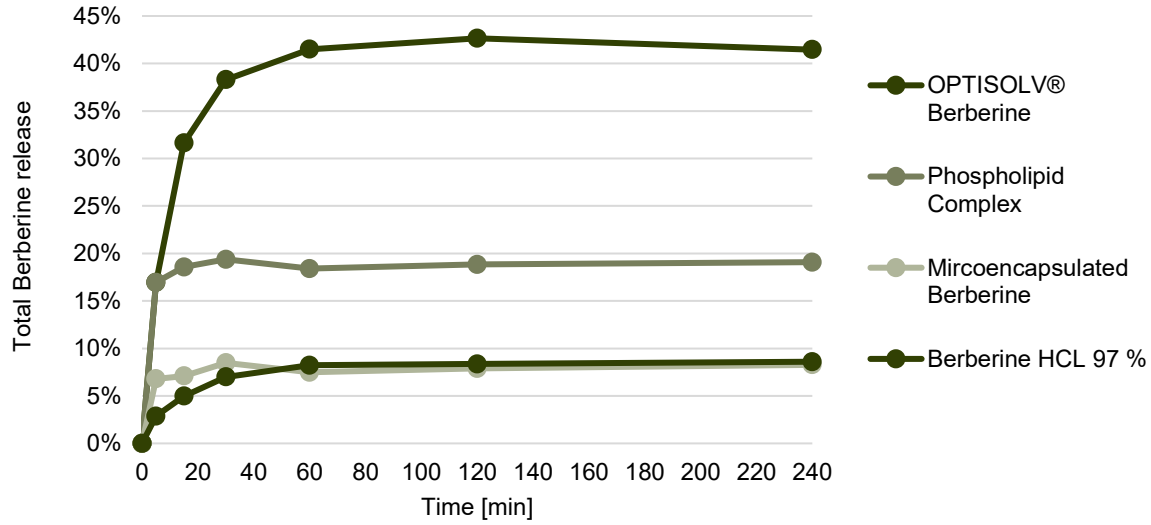


IMPACT

The OPTISOLV® Technology **enhances the absorption by more than 13.4x** in comparison to native Berberine

Dissolution in biorelevant intestinal fluid (FASSIF)

- Dissolution profiles of different commercial berberine products in intestinal media (fasted state simulated intestinal fluid/FASSIF) at 37 °C for 4 h
- Analysis of bioaccessible and soluble berberine via HPLC



IMPACT

OPTISOLV® Berberine shows **best-in-class** dissolution profile in comparison to commercial formulations **during simulated digestion**

OPTISOLV® Berberine is ideal for innovative nutraceuticals, enabling effective dosing and efficient manufacturing

OPTISOLV® Berberine

- Berberine complex with 13.4x higher absorption and significantly increased release during simulated digestion
- Proprietary formulation with OPTISOLV® technology
- Suitable for different formats
- Standardized to 30 % active berberine content
- Fully natural, non-GMO
- Low dose and better tolerability

Suitable For	Nutraceuticals
Source	Berberis aristata roots
Suitable Dosage Forms	Powders, Capsules, Tablets, Liquids
Other Ingredients	Gamma-Cyclodextrin, Camellia sinensis extract, Lecithin (Sunflower)
Forms	Yellow free-flowing powder
Shelf Life	24 months (stored at a cool, dry place protected from sunlight)
Active Content	N.L.T. 30 % Berberine
Pack Size	10 kg PE in an Aluminum Bag
Health Benefit	Metabolic Health | Weight Management | Blood Sugar Management
Recommended Dosage	250 – 500 mg

OPTISOLV® Berberine meets the highest quality standards and supports compliance with relevant regulatory requirements

OPTISOLV® Berberine

- Non-GMO, Vegan, no artificial additives
- Heavy metal, contaminant, content, identity, and microbiology testing for every batch
- No allergens, irradiation, or EO
- Production in Europe follows the highest quality standards in an FDA-registered facility
- FSSC/ISO 22000, HACCP, cGMP compliant
- Halal, Kosher optional
- Full traceability and documentation for every batch

Statement	**Summary** *(Detailed statements and documentation on request)*
Adulteration free statement	Manufactured under strict quality controls and not adulterated with undeclared, substituted, or prohibited substances; supplier qualification and routine checks applied.
Allergen Management Statement	Produced without intentional use of EU-listed allergens; allergen risks assessed and controlled through supplier qualification and appropriate manufacturing procedures.
BSE/TSE Statement	Of non-animal origin and free from materials of ruminant origin; no risk of BSE or TSE according to EU regulations
Certificate of Origin	A Certificate of Origin stating the country of origin of the raw material and/or finished product can be provided upon request.
Composition Statement	A detailed composition statement, including qualitative ingredient information is available upon request.
Contaminant Statement	Free from BAP, dioxin, heavy metals, melamine, PAH, perchlorates, pesticides, PCB, pyrrolizidinalkaloides, residual solvents, mycotoxins
Flow chart	A detailed process flow chart describing the main manufacturing steps, is available upon request.
Food Grade Declaration	Manufactured in compliance with applicable food-grade standards and suitable for use in food and food supplement applications.
Free From Statement	Free from artificial colors, artificial flavors, dairy, flavoring substances, free from palm oil, fructose, gluten, latex, lactose, magnesium stearate, polysorbate, silicon dioxide, soy-free, sugar, titanium dioxide, parabens
Irradiation and ETO-Statement	Not treated with ionizing radiation and not processed using ethylene oxide (ETO), based on supplier declarations and quality controls.
Microbiology Statement	Complies with applicable microbiological specifications for food ingredients; routine microbiological testing is performed.
Nanoparticles Statement	Does not intentionally contain engineered nanomaterials as defined under applicable EU regulations.
Non-GMO-Statement	Not derived from genetically modified organisms and compliant with EU GMO regulations; supporting documentation available upon request.
Novel Food Statement	To the best of our knowledge, the product does not fall within the scope of the Novel Foods Regulation, as governed by Regulation (EU) 2015/2283, detailed information available upon request
Vegan Statement	Of plant origin and produced without ingredients, processing aids, or additives of animal origin; suitable for vegan use.

CONTACT

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Thank You

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