INTEGRATIVE METABOLIC™

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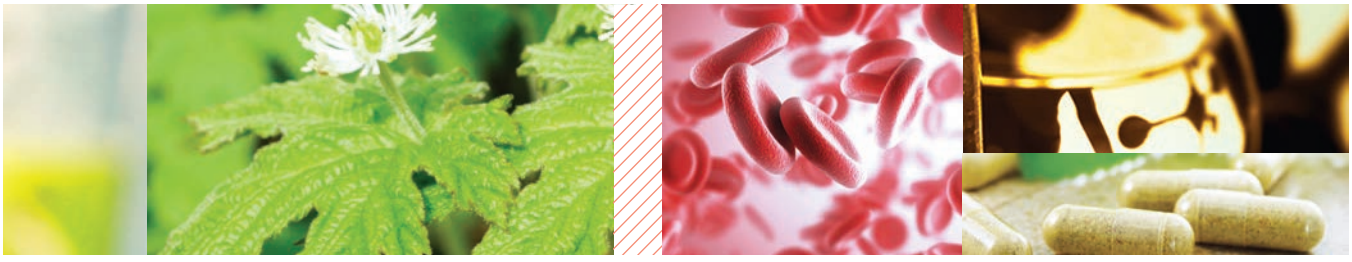
BERBERINE
METABOLIC SUPPORT

Berberine is an active constituent of many plants including *Phellodendron amurense* root. Berberine activates adenosine monophosphate protein kinase (AMPK).* AMPK is activated through various mechanisms including exercise to support glucose metabolism via an insulin-independent mechanism. Berberine has been the subject of human, randomized placebo-controlled trials. These plants have been used in traditional Chinese and other herbal medicine systems for centuries. More recent characterization and isolation of the main active constituent, berberine, has led to the development of this Berberine hydrochloride supplement. Each capsule delivers 500 mg berberine HCl.

Berberine

- Supports healthy blood sugar metabolism and insulin metabolism.*
- Supports healthy metabolic function.*
- Supports healthy cardiovascular function and lipid metabolism.*
- Supports healthy insulin receptor expression, with direct impact on supporting healthy glucose metabolism.*
- Supports healthy regulation of glycation.*

wheat free | GF gluten free | corn free | soy free | dairy free | vegetarian



*THIS STATEMENT HAS NOT BEEN EVALUATED BY THE FOOD AND DRUG ADMINISTRATION. THIS PRODUCT IS NOT INTENDED TO DIAGNOSE, TREAT, CURE, OR PREVENT ANY DISEASE.

BERBERINE

Clinical Studies

Berberine is an isoquinoline alkaloid isolated from plants such as *Phellodendron amurense, Berberis aristata, Coptis chinesis, Coptis japonica, Coscinium fenestatun,* and *Hydrastis Canadensis*. These plants have been used traditionally to support gastrointestinal health primarily in Asia.* Berberine has also been used to support blood sugar metabolism in traditional Chinese medicine for centuries.*

In the modern development of evidence, several controlled clinical trials have shown the benefits of berberine in various conditions as compared to reference or placebo. Pre-clinical trials provide further understanding of its numerous mechanisms of action.

One randomized, double-blind trial compared placebo to berberine for metabolic function.* Twenty-four study participants received either a placebo or 500 mg of berberine hydrochloride three times per day prior to meals. After 12 weeks berberine supported healthy insulin sensitivity, supported healthy blood sugar metabolism and insulin metabolism, and supported healthy metabolic function.*[1]

In an additional study, thirty-six adults received berberine at a dose of 500 mg, three times per day. After three months, berberine supported healthy blood sugar metabolism and insulin metabolism, healthy regulation of glycation, and healthy cholesterol metabolism.*[2]

A lower dose was used in a larger study. In that study 116 subjects were provided either 1.0 gram per day of berberine or placebo. After three months, berberine supported healthy insulin receptor expression, with direct impact on glucose metabolism.*[3]

Hu and colleauges evaluated the effects of 1,500 mg per day of berberine on humans and Sprague-Dawley rats and found that it supported healthy metabolic function and healthy lipid metabolism.*[4]

How it works

Among its many mechanisms of action, berberine is an adenosine monophosphate kinase (AMPK)-activator, which reduces the expression of mTOR (mechanistic target of rapamycin).*[5]

An *In vitro* study suggests that berberine is able to exert a glucose metabolism supporting effect in hepatocytes, which is insulin-independent.* It has also been demonstrated to support the healthy metabolism of glucose and insulin.*[6]

Supplement Facts

Serving Size 1 capsule

Amount per capsule		%DV
Berberine HCl	500 mg	**

**Percent Daily Values (DV) are based on a 2,000 calorie diet.
***Daily Value not established.

Other ingredients: Vegetable capsule (modified cellulose), cellulose, calcium laurate and silicon dioxide.

Recommendations: Take one capsule two to three times daily or as recommended by your healthcare professional.

CAUTION: Do not use this product if pregnant or nursing. If you have diabetes or are taking any medication, consult your healthcare professional before using this product.

Contains No: Sugar, salt, yeast, wheat, gluten, corn, soy, dairy products, artificial colors, flavors, preservatives or ingredients of animal origin.

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Additional *in vitro* studies have investigated the role of berberine in lipid metabolism.*[7,8]

Safety

In human trials some subjects reported transient gastrointestinal adverse effects.

Berberine is metabolized via the cytochrome P450 superfamily of enzymes. Notably, it shows inhibition of CYP3A4, a common substrate for medications.[9] Individuals taking medications should exercise caution when using berberine.

References

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