

APPLICATIONS

- Healthy Inflammatory-Response Support
- Mood Support
- Antioxidant Support
- Cardiovascular Support
- Healthy Weight Support
- Healthy Blood-Sugar Support



INTRODUCTION

Curcumin is considered the primary active constituent of *Curcuma longa* root, which is commonly known as turmeric root and is used as a cooking spice. Curcumin gives the spice its yellow color. *C. longa* belongs to the Zingiberaceae family, and synonyms include *Curcuma domestica* and *Curcuma aromatica*.¹

Turmeric root has been used for centuries in traditional Chinese and Indian health practices. In China, it is known as *jiang huang* and is traditionally used to support cardiovascular health.^{*2} In India, it is known as *haridra* and is traditionally used to support a healthy inflammatory response, maintain health digestion, and support a healthy mood.^{*3,4}

Turmeric root's main constituents include curcuminoids, terpenoids, phenolic compounds, carbohydrates, proteins, minerals, and resins.^{5,6} Curcuminoids include curcumin I (curcumin), curcumin II (demethoxycurcumin), and curcumin III (bis-demethoxycurcumin).^{5,6}

Until recently, the benefits of curcumin from turmeric root have been limited by poor absorption, low

solubility, short half-life, and rapid metabolism. Various technologies exist to improve this, including the use of phytosomes, liquid micelles, combinations with piperine, and others. NutraMedix Curcumin uses BioSOLVE Curcumin™, which is emulsified and microencapsulated in a polysaccharide food matrix acting as a hydrophilic carrier.⁷

BioSOLVE curcumin is gentler on digestion than preparations that include piperine and has less allergenic potential, as it avoids the use of soy lecithin.* It also has higher bioavailability at only half the dose of standard curcumin extract—500 mg of BioSOLVE Curcumin with 95% curcuminoids yields 382% higher plasma curcumin levels than 1,000 mg of standard curcumin extract with 20% curcuminoids.*⁷

In a small study comparing the bioavailability of curcuminoids, 14 participants were randomly assigned to either a standard extract (95% curcuminoids) or to a water-dispersible extract. The hydrophilic, water-dispersible extract was more easily absorbed and had similar plasma levels of curcumin and curcuminoids at a tenfold lower dose.*⁸

NutraMedix rigorously follows current good manufacturing practices (cGMPs), as do our BioSOLVE Curcumin suppliers, including stringent ID testing, microbial testing, and heavy-metal testing. This testing is conducted on both the raw material and after encapsulation.

HEALTHY INFLAMMATORY-RESPONSE SUPPORT

Curcumin, the active constituent of Turmeric root (*C. longa*) may help maintain NF-kappaB, STAT3, Nrf2, ROS, and COX-2 already within the normal range, which may help support a healthy inflammatory response.*⁹

In a systematic review and meta-analysis of 10 randomized, controlled trials with a total of 783 participants, the researchers found that turmeric root extract helped significantly maintain joint comfort and normal joint function already within the normal range, compared to placebo.¹⁰

In a systematic review and meta-analysis of 66 randomized, controlled trials, the researchers found that curcumin and/or turmeric root may help maintain C-reactive protein (CRP), TNF-alpha, and interleukin-6 (IL-6), though not IL-1beta, already within the normal range.*¹¹

In a systematic review and meta-analysis of 15 randomized, controlled trials with a total of 1,621 participants, the researchers found that compared to placebo, curcumin and/or turmeric root helped maintain VAS and WOMAC scores already within the normal range. Curcumin and/or turmeric root were also associated with fewer adverse events compared to the positive control.* The authors concluded that curcumin and/or turmeric root should be used for longer than 12 weeks for optimal support.¹²

In a systematic review and meta-analysis of 15 randomized, controlled trials with a total of 1,670 participants, the researchers found that compared to placebo, curcuminoids helped support and maintain joint function already within the normal range as measured by VAS and WOMAC scores.*¹³ Similarly, in a systematic review and meta-analysis of eight randomized, controlled trials, the researchers found that 1,000 mg per day of curcumin may be helpful for supporting healthy joint comfort and function, though larger trials are needed.*¹⁴

In a randomized, controlled clinical study, 144 participants were randomly assigned to a bioavailable turmeric extract at 500 mg twice per day or to a positive control. The researchers found that the turmeric extract may help maintain CRP and TNF-alpha already within the normal range, and support joint comfort and function already within the normal range as quantified by WOMAC scores.*¹⁵

In an 8-week placebo-controlled study, 101 participants were randomly assigned to either 500 mg twice per day of a standardized curcumin extract or a placebo. Compared to the placebo group, the curcumin group experienced significant support for joint comfort as well as aspects of joint function.*¹⁶

In a placebo-controlled trial, 24 participants were randomly assigned to either 250 mg of BioSOLVE Curcumin™ or a placebo, twice daily for 12 weeks. Assessments were conducted at baseline, day 30, day 60, and day 90. The curcumin group experienced

significant maintenance of joint comfort and normal function compared to the placebo group.*¹⁷

MOOD SUPPORT

In a meta-analysis of nine trials, when compared to placebo, curcumin (*C. longa*) in addition to standard care was found to support and maintain a healthy mood and support healthy stress management, though the researchers noted that larger studies are needed.*¹⁸

In a mini meta-analysis of six clinical trials, researchers found that in trials of 6 weeks or longer or in doses of 1,000 mg per day, curcumin may help support and maintain a healthy mood, particularly in middle-aged patients, compared to placebo.*¹⁹

In a double-blind, controlled study, 90 healthy participants ages 50 to 69 were randomly assigned to turmeric-root extract or a placebo, daily for 12 weeks. At the end of the study, compared to the placebo group, the turmeric root–extract group maintained mental-emotional wellness already within the normal range, as well as body weight and body mass index (BMI) already within the normal range measured by standardized scales.*²⁰

ANTIOXIDANT SUPPORT

In a systematic review and meta-analysis of 66 studies, researchers found that curcumin and/or turmeric root (*C. longa*) supplementation significantly improved antioxidant activity through supporting and maintaining total antioxidant capacity (TAC), malondialdehyde (MDA), and superoxide dismutase (SOD) levels already within the normal range.*¹¹

In a meta-analysis of eight randomized, controlled trials lasting 4 weeks or longer, with a total of 626 patients, curcumin was found to help support and maintain glutathione peroxidase (GPX), superoxide dismutase (SOD), and serum MDA already within the normal ranges. Serum MDA became significant at or over a dose of 600 mg per day.*²¹

In an in vitro study, 116 healthy participants were divided into three groups by age—young (20–35 years), middle-age (36–60 years), and old (> 60 years)—and blood samples were taken. Oxidative stress was induced in the blood samples. Compared to the control, curcumin treatment in vitro helped support normal

endogenous antioxidant activity through maintaining glutathione and MDA levels already within the normal range in all age groups. As endogenous antioxidant activity decreases with age, this may be most relevant in those of middle age and older.*²²

OTHER USES

Cardiovascular Support

In a systematic review and meta-analysis of 64 randomized, controlled trials, curcumin and/or turmeric root (*C. longa*) supplementation was found to help support and maintain total cholesterol, triglyceride, LDL cholesterol, and HDL cholesterol levels already within the normal range. However, there was no effect on apolipoprotein A or B.*²³

In a systematic review and meta-analysis of randomized, controlled trials using curcuminoids and/or turmeric extract and measuring metabolic indices, 12 studies noted maintenance of triglycerides already within the normal range.* Thirteen studies showed turmeric extract and/or curcuminoid supplementation maintained LDL cholesterol levels already within the normal range, and 16 studies reported the same for HDL cholesterol.*²⁴

In a systematic review and meta-analysis of seven randomized, controlled trials with a total of 649 participants, when compared to placebo, curcumin and/or turmeric root showed significant support in maintaining LDL cholesterol and triglyceride levels already within the normal range, though not HDL cholesterol.*²⁵

Healthy Weight Support

In a systematic review and meta-analysis of 60 randomized, controlled trials with a total of 3,691 participants, curcumin and/or turmeric root (*C. longa*) supplementation was found to help maintain body weight, BMI, and waist circumference already within the normal range.* It also helped maintain adipokines leptin and adiponectin already within the normal range.*²⁶

In an umbrella review and updated meta-analysis of systematic reviews and meta-analyses of curcumin studies that evaluated body weight, BMI, and waist circumference, the researchers found that enhanced-bioavailability curcumin was superior to regular curcumin in maintaining these indices already within the normal range.*²⁷

Healthy Blood-Sugar Support

In a systematic review and meta-analysis of 17 randomized, controlled trials, researchers found that curcuminoids and/or turmeric root (*C. longa*) may help maintain glycometabolic indices already within the normal range, including fasting blood glucose, hemoglobin A1C (HbA1c), and insulin sensitivity.*²⁸

SAFETY AND CAUTIONS

Curcumin (*C. longa*) is generally well tolerated and has been used safely in doses up to 12 g per day for 3 months.²⁹ The most common adverse effects have been gastrointestinal in nature, including constipation, diarrhea, acid reflux, nausea, and vomiting.¹

As turmeric root may help with antioxidant support,* it may reduce the efficacy of free radical-generating chemotherapeutics such as alkylating agents, antitumor antibiotics, or topoisomerase I inhibitors, though research is conflicting.¹ Turmeric root may also increase the risk of bleeding when taken with anticoagulant or antiplatelet drugs, or with warfarin, though research is conflicting.¹

Turmeric root may increase the risk of hypoglycemia when taken with hypoglycemic drugs. It may increase levels of amlodipine, may increase the effects and adverse effects of sulfasalazine or tacrolimus, and may theoretically increase levels of substances metabolized by CYP3A4. It may also decrease the absorption of talinolol and may decrease the levels and effects of tamoxifen.¹

Theoretically, turmeric root may increase the risk of liver damage when taken concurrently with hepatotoxic drugs,¹ though in systematic reviews and meta-analyses of randomized, controlled trials, the researchers found that curcumin and/or turmeric root may help maintain ALT and AST levels already within the normal range.*^{30,31}

Curcumin's safety is not documented in breastfeeding or pregnant women, or in children under age 3, due to insufficient safety research.

***This statement has not been evaluated by the Food and Drug Administration. This product is not intended to treat, cure, or prevent any diseases.**

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NutraMedix®

CURCUMIN FROM TURMERIC

SUPPORTS HEALTHY
INFLAMMATORY RESPONSE †

Dietary Supplement

120 Vegetable Capsules

Supplement Facts

Serving Size 2 Capsules
Servings Per Container 60

Amount Per Serving	% DV
Turmeric root extract (Curcuma longa) (as BioSOLVE™ Curcumin 20% extract powder)	500 mg *

*Daily Value not established

Other ingredients: Vegetable Capsule, Microcrystalline Cellulose, Vegetable Magnesium Stearate
GLUTEN, SUGAR & DAIRY FREE

NutraMedix®

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www.nutramedix.com

561-745-2917



KEEP OUT OF REACH OF CHILDREN

STORAGE: Keep tightly closed in a dry place at room temperature. (59-86°F or 15-30°C)

SUGGESTED USE: Take two capsules once daily after a meal or as directed by your physician. Do not use if pregnant or nursing. Stop use if adverse reactions develop.

BioSOLVE™ Curcumin is a registered trademark of Zeus Hygia.

†These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.



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